

Sept 1885

June 1886

Far dressing done by
 Mr. Wm L. Burke
 214 Broadway N.Y.

Fort Verde, A.T. is situated about in the centre of
 the Territory in latitude $34^{\circ} 32'$, longitude $112^{\circ} W$.
 Altitude, 3500 feet.

There are complete meteorological records at the
 Post Hospital beginning in April, 1870, ending April
 1881, and beginning again Jan. 22nd 1886.

The location is more accurately given in Wheeler's Rep.

Qua-si-la }
 Will-a-opsy } brothers.

Qua-si-la }
 Will-a-opsy }

Qua-si-la }
 Will-a-opsy }

Qua-si-la }
 Will-a-opsy }

September 1st 1885. Fort Verde, Arizona.

4188. Ereunetes pusillus occidentalis Fringa bairdi ♀ ad. Verde River. Webs, 5 mm.
 172; to end of toes, 194; 316; 105; 48; cul, 25; gape, 24; bare tibia
 14; tarsus, 23; mte, 20; claw, 3.7. Irides, dark brown. Bill
 black. Bare tibia and tarsi dusky-plumbeous. feet, blackish

4189. Ereunetes pusillus occidentalis Fringa bairdi ♀ ad. Verde River. Colors like No. 4188.
 173; to end of toes, 201; 320; 48; culmen, 26; gape, 25;
 bare tibia, 19; tarsus, 25; mte., 21; claw, 4. Web, 6.5 mm.

4190. Fringa bairdi ♀ ad. On Verde River, in flock with above species.
 186; to end of claws, 205; 382; 128; 54; culmen, 22;
 gape 22; bare tibia, 15; tarsus, 23; mte, 21; claw, 5
 Irides, dark brown. Bill, legs, feet & claws, black.

4191. Ereunetes pusillus occidentalis ♀ ad. Verde River.
 164; 302; 97; 45; Length to end of toes, 190; cul., 23; gape, 22.5;
 bare tibia, 13; tarsus, 18.5; claw, 4. Irides, dark brown. Bill
 feet & claws, black. Lips, plumbeous black. Outer web of toes,
 measures, 6 mm.

4192. Ereunetes pusillus occidentalis ♂ ad. Verde River.
 163; 300; 97; 47; Length to end of toes, 183; culmen, 22;
 gape, 21.5; bare tibia, 15; tarsus 22; mte., 18; cl., 3

4193. Ereunetes pusillus occidentalis ♂ ad.
 165; 312; 99; 46; Length to end of toes, 187; culmen, 22;
 gape, 21.5; bare tibia, 12.5; tarsus, 22.5; mte, 19; claw 3.9

September 3rd 1885. Fort Verde, Arizona.

Nyctiardea grisea naevia. - I followed out for
 some time, but it would not allow me to get
 within range. At length it flew, and a Duck Hawk
 (Falco peregrinus naevius) started in pursuit,
 and easily overtook it, and clutched the poor
 Nyeeron, whereupon it croaked fearfully and
 fell into the water, but swam ashore and
 flew away before I could reach it. The
 Hawk evidently had no use for Nyctiardea,
 as teal are plentiful and only chased
 and scared it for amusement. The Hawk
 twice alighted upon the ground beside the River

4194. *Geothlypis macgillivrayi*. ♂ ad.
142; 198; 64; 60; noet, 8; gape, 14; culmen, 11.5;
tarsus, 21; mte., 17.5; claw, 5. Irides, hazel. Bill,
with maxilla brownish-black; mandible flesh-color,
purplish along sides and at extremity. Tarsi feet
and claws, brown.

4195. *Ceryle alcyon*. ♂ ad. Beaver Creek.
342; 570; 168; 104; culmen, 57; gape, 73; bare tibia,
11; tarsus, 11.8; mte., 25; claw, 10. Irides, hazel. Bill,
plumbeous-black, with a patch on sides of maxilla
at base, the rami of mandible, and extreme tip of
bill, horn-color. Bare part of tibiae, bluish flesh-color.
Under surfaces of feet and posterior of tarsi, salmon-
color. Tarsi in front and feet above, brownish-black;
claws, blackish.

4196. *Fringa minutilla* ♂ ad. Verde River.
Length to end of toes, 167; 150; 287; 49; culmen, 18;
gape, 17; bare tibia, 11.5; tarsus, 18; mte., 21; cl., 4.2.
Irides, hazel. Bill blackish; greenish-olive at base of
mandible. Legs + feet greenish-olive; claws, dusky.

4197. *Bubo virginianus subarcticus*. ♂ ad.
500; ~~365~~; 1315; 365; 215; cul. + cere, 39; cere, 17;
culmen, 26; gape, 43; tarsus, 61; mte., 63; cl., 27;
inner claw, 28; outer claw 24; hind claw, 24.

Irides, yellow. Cere + bill, dusky-plumbeous, the
latter lightly tipped with horn-color. Soles of feet, white.
Bare extremity of toes, plumbeous. ^{Gills + feet plumbeous at} Stomach had ^{bones of mice} bones of mice.

4198. *Nettion carolinensis*. ♀ ad. Verde River.
367; 615; 187; 80; cul., 39; gape 43; most 30; height
at ^{extrem} base, 15; greatest breadth, 14. Bare tibia, 12.
Tarsus, 32; mte., 40; cl., 7.4. Irides brown. Bill with
dorsum + tip of maxilla, blackish shading purplish brown
laterally, and with mandible purplish flesh-color.
Legs + feet, gray; webs dusky, claws dusky, at base,
tipped with horn-color. The claws reach 25 mm beyond tail.

4199. *Nettion carolinensis*. ♀ ad. Verde River.
370; 610; 177; 78; culmen, 38; gape, 44; most 30; height

of bill at extreme base, 16; greatest breadth, 14;
bare tibia, 10.5; tarsus, 31; mte., 44; claw, 8.
Colors of bare parts the same as No. 4198.

4200. *Nettion carolinensis*. ♂ juv. Beaver Creek.
375; 630; 193; 78; cul., 36; gape, 44; most 30;
height at extreme base, 16; greatest breadth, 14; bare
tibia, 10.5; tarsus, 32; mte. 45; claw, 7.5. Colors
of soft parts like No. 4198. Shot in company with No. 4201.

4201. *Dafila acuta*. ♂ juv (2nd year) Beaver Creek.
620; 935; 272; 118; culmen, 53; gape, 65; height at
extreme base, 22; greatest breadth 20; bare tibia, 14.
Tarsus, 46; mte., 61; claw, 9. Irides, dark brown.
Bill blue-black, slightly bluish paler at base of
mandible. Legs + toes, gray; webs, dusky; claws,
dusky-brown.

Sept. 9th, 1885. Fort Verde, Arizona

4202. *Accipiter cooperi* ♂ juv. Presented by Major Otey.
425; 760; 233; 205; Culmen + cere, 22; cere, 10;
culmen, 14.5; gape, 23.5; tarsus, 64; mte., 51;
mt., 39; cl., 13. Irides, pale yellow; cere, greenish
yellow. Tonia, light yellow at base. Bill, pale
plumbeous at base shading to blue-black at tip.
Tarsi + feet, greenish yellow, claws blue-black.
It was eating a quail when shot (*L. gambeli*).

Note. - Mr. H. G. Smith of Denver, Col., sent me
several specimens for identification, as follows: -
Spizella domestica. "No. 218. Apr. 23, 1885. Sex, ?
Length 5 5/8; Alar expanse 8 7/8. Wing, 3; tail, 2 5/8." "Yes" he
says "I think is the Eastern Chipping Sparrow. I send two
specimens from the collection of A. W. Anthony which he
would like examined." "You will see the Silverton bird
is much higher on the crown than the Denver bird.
Can you assign a cause? Other specimens he took there
are the same."

Mr. Anthony's specimens are both *Spizella domestica*
arizonae, one from Beaverton, Oregon, the other from
Silverton, Colorado. (over)

The other birds were Hylocichla fuscescens salicicola and Hylocichla unalashkai audubonii, both from Denver, Colorado.

The Willow Thrush closely resembles the Hylocichla ustulata from Arizona, beneath, but the general color of the back is more like Wilson's Thrush.

Collector's No.	Sex and age.	Date.	Locality.	Name of Collector.	Length.	Alar expanse.	Wing.	Tail.	Culmen.	Bill from nostril.	Along gape.	Tarsus.	Middle toe + claw.	Toe alone.	Claw alone.
55-	♀ ad.	June 2, 1884.	Denver, Colorado.	F. S. Smith.	190	298	102	76	15	94	20.5	29	23	18	5.5
4052	♀ ad.	May 17, 1885.	Agua Fria, at Swilling's Rancho, Arizona.	E. A. Mearns.	193	297	96	79	14	95	21.	29	22	17	6.5
3701	♂ ad.	Jan. 14, 1885.	Dark Creek, Arizona.	E. A. Mearns.	183	285	93	75	14	9.	19.	31	23	17	6.0
3575	♂ ad.	Oct. 5, 1884.	General Spruce, Arizona.	E. A. Mearns.	195	224	108	80	17	11.5	23.	31	23.5	17	6.3
116	♂ juv.	Sept. 25, 1884.	Denver, Colorado.	H. S. Smith.	178	297	92	73	14	9.	19.	28	22	17	5.5

When comparing the specimens with those in my own collection I took the following measurements of all the specimens of the genus now in my possession. See opposite table.

The Eastern Chipping Sparrow exhibits a much greater amount of black on the forehead than var. arizonae; the black is sharply divided by a white central strip. This character, which is, I think, omitted in the books is of more value than those which are insisted upon.

1. Hylocichla fuscescens salicicola. (♀ ad. No. 55-)
2. Hylocichla ustulata. (♀ ad. No. 4052.)
3. Hylocichla ustulata. (♂ ad. No. 3701.)
4. Hylocichla ustulata audubonii. (♂ ad. No. 3575.)
5. Hylocichla ustulata audubonii. (♂ juv. No. 116.)

Hylocichla fuscescens salicicola Ridgw.
Willow Thrush.

Description

Adult in spring (from No. 55, ♀ ad., June 2, 1884, Denver, Colorado; H. S. Smith). Above nearly uniform russet-olive, the rump being slightly more rufescent; greater wing-coverts with a lighter edging of pale fulvous. Below with the chin whitish, shading to pale buff upon the lower part of the neck and jugulum, with narrow spots similar in color to the back but darker along the shafts, arranged in linear series upon the neck and front of the breast; middle of the breast, abdomen, tibiae and under tail-coverts, pure white; sides and flanks ash-gray, that color extending nearly across the breast in front. The dark spotting ends rather abruptly upon the fore part of the breast, where the gray supplants the buff, but a few obsolete spots of grayish can be traced nearly as far as the abdomen. The spotting along the edges of the chin forms distinct maxillary stripes. The feathers of the sides of the head are mixed gray and olive, without any light orbital circle. The axillars and lining of the wings are grayish-white. Tarsi, flesh-color; feet fleshy, tinged with brown; claws, pale brown; bill, dusky-olive above, flesh-color below except near tip. The dimensions of this specimen are given in the table on the opposite page. The specimen was returned to Mr. Smith, who sent it to me for identification.

Hylocichla ustulata (Nutt.) Baird.
Russet-backed Thrush.

Description

Adult in spring (from No. 4, 052, ♀ ad., May 17, 1885, Agua Fria at Swilling's Rancho, Arizona; E. A. M.).

Letter
Plumbeo to the capture of a Golden Eagle (*Haliaeetus
leucurus canadensis*) shot by the writer at White Mts. Arizona
(See No. 4337, p. 78 this book.)

"White Mts. Bks, Dec. 18th, 1885.

Asst. Surg. E. A. Mearns, U. S. Army.

Fort Verde, A. T.

"My dear Sir:

"I shipped you the bird
by to-day's stage, after carrying out your instruc-
tions, and hope it will reach you in good condition
for skinning — I saw it on a dead pig and
supposed until I got near that it was a large
buzzard but as soon as I saw what it was I
shot it — It was on the "was path" to the last
and I had to kill it by striking it on the back
of the neck —

"I sent the snake skin to a friend in
Phila — who had or is having it tanned in N. Y.,
said to be the only place in this country where
such work can be properly done. When you
have time please let me know what kind of
an Eagle it is.

"Please make my respects to Mrs. Mearns

"Very truly yours."

Sig. "W. F. Drum," [Maj. U. S. A.]

[Insp. Genl. Dept. Arizona]

Note on the Mountain Sheep.

Mr. Robert Erwin, son of Colonel Erwin
10th Cavalry, killed three Mountain Sheep, all
old males, in the Guadalupe Mountains in
Northwestern Texas, in 1878. They were in
a rocky cañon with only two outlets to the part
the one in which Mr. E. approached and another
which they passed by in trying to escape running
along a ledge. When 1st seen they all jumped on top of
a high boulder and looked at the hunter. One was shot
and the others in rapid succession. The latter
were shot by curiosity. Highest elevation 10,000 feet at 2 or 3000 ft.

Letter
Fort Verde, Arizona, October 24th, 1885.
The other birds were sent to you in the same
box as the mountain sheep to my friend, Mr. Mearns.

"White Mts. Bks.

"Mearns, U. S. A.

"Dec. 2, 1884.

"Dear Friend Sir:

"I am glad to hear from you
and thank you for the story of your success, which
had a serious history. In your account of the
bird a source of error is presented in the fact
that it was a species new to science, *Haliaeetus*
leucurus arizonensis, and published in 1885.
But you obtain a second and another in like it
and I think you two of them were seen on the
same day to nature with birds that were seen
at the same time — the two specimens
I have in my collection of birds from the
White Mts. are and were and possibly were
I have seen much of the bird, especially in the
with my interest in scientific studies, writing and
and giving lectures. I would like to give
the work on the mountain sheep which was done
my hands so far, and was interrupted when
the military authorities broke me up here
years ago. I want to see you and
I shall be glad to hear from you.
and some other birds which I have seen
some times in close calls by the Apache
mountain sheep, and I have never seen
the bird; when you would have seen it
look on a certain spot where it was
it was seen.

Sincerely your friend

Elliott Coues.

Name.

✓ = One
X = Several
= Many.

Nov 9
10th
11th
12th
13th
14th
18th

Melospiza migratoria
Halocichla ustulata
Polioptila caerulea
Spizella monticola
Lathyrus media wilsoni
Quercus laevis
Asplenium platyneuron

X
X X
X X X
X
/ /
/
/

Looking on Plate

25

September 11th 1885. Fort Verde, Arizona

To-day is my 29th birthday. We left the Post early in the morning and drove in the buckboard to Morris' ranche on Clear Creek, where we spent the day & hunted in the timber in the creek-bottom and on the ranche. A number of interesting birds were seen, especially Warblers.

4203. *Myiodiastes pusillus pileolatus*. ♂ ad? Clear Creek. 126; 173; 56; 54; cul., 10; nostril, 6; gape, 12; tarsus 18; mtc, 13.2; claw, 3.5. Iris, hazel. Bill with maxilla brown, mandible pale yellow. Tarsi & dorsum of feet yellowish-brown, under surface of feet, yellow.

4204. *Dendroica aestiva*. ♂ (ad?) Clear Creek. 134; 203; 66; 51; culmen, 11.6; nostril, 8.2; gape, 14; Tarsus, 18; mtc, 15; claw, 4.

4205. *Geothlypis macgillivrayi*. ♂ ad. Clear Creek. 142; 200; 64; 57; culmen, 12; nostril, 8; gape, 14; tarsus, 21; mtc, 17; claw, 5. Iris, hazel. Bill, with maxilla except along tomium, and tip of mandible, brownish black. mandible and tomia flesh-color. Tarsi feet and claws, brown.

4206. *Geothlypis macgillivrayi*. ♀ ad? Clear Creek. 141; 190; 61; 57; culmen, 11.7; nostril, 8; gape, 14; tarsus 21; mtc 17; claw, 5. Iris, hazel. Bill, with maxilla, ^{and tip of mandible} brownish-black; mandible flesh-color except at tip. Tarsi, feet and claw brownish flesh-color.

4207. *Geothlypis trichas occidentalis*. ♀ ad? Clear Creek. 137; 177; 58; ~~57~~; culmen, 12.5; nostril, 8.2; gape, 14.5; tarsus, 20; mtc, 18; claw, 5. Iris, hazel. Bill with tomia & base of mandible & ridge of gonys, flesh-color residue brownish-black.

4208. *Vireo bellii*. ♂ ad. Clear Creek. 137; 220; 71; 56; cul., 12; nostril, 7; gape, 16; tarsus, 19; mtc, 14.3; claw, 5. Iris, hazel. Bill dusky brown with base of mandible flesh-color. Tarsi feet & claws bluish-gray.

4209. *Empidonax difficilis*. ♂ juv. Clear Creek. 138; 199; 65; 56; culmen, 13.5; nostril, 8; width opposite nostrils 5.8; gape, 16.5; tars 17; mtc 12.4; cl, 4.5. Iris hazel. Maxilla, tarsi, feet & claws brownish-black; entire mandible orange.

4210. *Pyrranga ludoviciana*. ♂ juv. Clear Creek. 189; 308; 98; 75; cul., 17; nostril, 11.1; gape, 19; tarsus, 21; mtc, 20; claw, 6.

~~4211. *Pyrranga ludoviciana*. 190; 300; 95; 78; cul., 16; nostril, 11; gape, 19; tarsus, 21; mtc, 20; claw, 6. Not skinned.~~

4211. *Tachycineta thalassina*. juv. ^{juv.} ~~Immature~~ plumage with a few metallic feathers of adult plumage just coming in with moult. 130x 300.

4212. *Circus hudsonius* (juv.?) Brown plumage. Clear Cr. 472; ~~564~~¹⁰⁹⁰; 365; 240; cul. + cere, 26; cere, 11; cul., 16; gape, 30; tars., 77; mtc., 50; Mt., 35; cl., 16. Iris, yellowish gray - bill, bluish at base, plumbeous black at tip; tarsi & feet yellow, claws plumbeous black. ^{Strongly muffed.}

4213. *Cantalus loculator*. ♀ ad. Sept. 12th 1885.

930; 1730; 475; 163; cul., 215; gape, 259; length of rostr. 21; from anterior margin to end of bill, 177; from center of pupil to tip of bill, 230; from center of pupil to occiput, 49; length of frontal plate, 39; breadth, 47; width of bill at angle of mouth, 45; height at base, 51; circumference at base, 155; base of culmen to occiput, 67; length of tibial joint, 265; bare tibia, 150; tarsus, 198; mtc., 140; htc, 65; etc., ¹⁰⁰; etc, 110; hel, 13; del, 12; mcl, 15; cel, 10.5; girth of middle tibia, 42; middle of tarsus, 39; of tibial tarsal joint, 80; from head of tibia to end of middle claw, 590; length from tip of bill to end of claws, ~~105~~

1340. Verde River at Fort Verde, Arizona. The irides are grayish-green. Bill, whitish. Bare skin on head dark bluish-purple. Legs and feet, dusky plumbeous, marked about the feet with yellowish blotching.

Two of these birds were seen up the River. I had no gun and did not return to the Post for several hours. Then I got Private Roberts, a colored soldier, to go with me and take his carbine. I instructed him not to shoot at any pure white or blue Herons.

begin to arrive on their southward migration about the 25th of August (although a few resident ones were here all summer) and have been increasing in numbers until during the past week they have far outnumbered all the other Swallows together.

Stelgidopteryx serripennis. Last noted Sept 11th.

Cyranga ludoviciana. They began to grow numerous down in the Verde Valley about August 20th, and are still abundant. They sit very much like a Parula, and fly after insects continually in the manner of Flycatcher.

Astragalinus palmeri is more conspicuous at this season than at any other time. They feed largely upon sunflowers.

Last year none were seen during the three winter months.

Passerculus sandwichensis claudimus. - They began to be common along the Rio Verde about the 1st of Sept.

They feed in the grassy margin & stalk in place of flying.

Pooecetes gramineus confinis. - The species was first noted August 24th and has steadily increased up to date & doubtless breeds in this general region.

Spizella domestica arizonae } Both began to arrive in flocks August
Spizella breweri }

Amphispiza bilineata. - Still present, but growing scarce.

Pipilo chlorurus. First seen September 12th.

Zamelodia melanocepala. - None have been noted since the 4th of September.

Lurica caerulea. - Still present, but growing scarce.

Passerina amoena. - Last seen Sept. 2nd.

Agelaius phoeniceus. - A flock seen Sept 12th Phoenix. It breeds at Phoenix & on the Gila River. A winter here.

Icterus bullocki. Last seen August 28th.

Icterus cucullatus. Last seen August 26th.

Tyrannus vociferans. - Last seen Sept. 11th.

Tyrannus verticalis. - Still present.

~~Tyrannus~~ Myradus cinerascens. Last seen Sept 8th.

Leontopus borealis. Last seen on Oak Creek Sept. 13th.

Leontopus richardsoni. Still abundant.

Empidonax difficilis. - Still present.

4.

Empidonax pusillus. - Last noted Sept 7th.

Empidonax saxatilis. - Large flocks began to appear about the 1st of Sept. and are still present.

Chaetura vauxii. - A single bird supposed to be this species was seen on Clear Creek Sept. 11th.

Chordeiles acutipennis texensis. - Last seen Sept. 13th. It is growing scarce.

Ceryle alcyon. - Now becoming common along the Verde.

Asyndesmus torquatus. - The first one I ever saw in the Verde Valley was noted in the Post Sept. 12th.

Pandion haliaetus carolinensis. This species used to breed on the Verde at this point & elsewhere, but the nest trees have been cut.

They breed on Beaver Oak and Clear Creeks now. I do not know whether any remain throughout the winter. If so the species is a permanent resident.

Falco sparverius. - This species like the Duck Hawk likes to cry in the evening. Its notes resemble slightly those of a Duck Hawk. In full cry now.

Circus hudsonius. The autumnal migration begins about the first of September.

Accipiter cooper breeds here, ^{is resident} but a general migration takes place, beginning the last of August.

Accipiter fuscus doubtless also breeds here, but has not been found doing so. Its general migration begins late in August. Both species exceedingly abundant during Sept & October.

Tentacis loculator. - I never saw the Wood Pewee here until Sept 12th. For some time past I have heard of its presence together with Losay Jays at Beck's Lake 20 miles up the Verde, where both species are seen nearly every year in numbers.

Tringa bairdii is still present.

Tringa minutilla still present.

Ardeias alba egretta is still plentiful, but shy.

Nycticorax nycticorax } Quite common still.

Butorides versicolor }

No. 238

Sept. 15th, 1885. Fort Verde, Arizona.

Hesperotilio Oplisicus fuscus (Beauvois). ♀ ad.

Caught last night in Major McLellan's house. Total length, 112; head + body, 65; tail, 47; Alar expanse, 335; wing from carpl. joint, 84; alar toe and claw, 7.5; toe, 7; cl., 2; Ears, height above crown 11.5; Above meatus, 16; Greatest breadth, 12; Height of ^{from notch} ~~tragus~~ 9; Tip of nose to eye, ^{middle of pupil} 11; ear, 16; meatus, 17; tip of ear, 27; Occiput, 22; outstretched hind leg, 105; Leg, 27; ~~manus~~ pes, 10; Longest hind claw, 3.

238a *Horned Lizard* -? ad.

This spec. has been kept in confinement for two months. It caught an immense number of flies, ants and beetles in the box where kept. When left undisturbed for some time it would exhibit great anger and ferocity. At such times it became very much excited, biting and holding onto any object thrust before it and hissing loudly and becoming frantically excited, sticking out its tongue and butting with its horns. Beneath white, the throat and under surface of the extremities being nearly immaculate, white the chest and abdomen are finely dotted with dusky, gray forming spots which are especially pronounced upon the middle of the abdomen, where there are two indistinct lines longitudinally; the lower part of neck orange. General color of dorsum orange-red overlaid with cinereous-ash, the orange being exposed laterally especially in front. Middle of back with several large indistinct dusky spots. Upper surface of limbs & tail indistinctly banded with the same. The head is ash, the horns orange-red. Eyes a purplish black. Long and row of lateral spines white, the former finely spotted above with dusky. Claw, yellowish. Total length 140; breadth across inflated abdomen, 75; Tail from anus 53; nose to anus (Spec. alive with neck perhaps contracted but in natural position) 98. It was covered with orange-colored, solid fat, showing it had found an abundance of food during its confinement.

No. 239.

See Journal, p. 310.

Coryphastur megarhynchos. ♂ ad. Indian Garden, Oak Creek, 35 miles north of Fort Verde, Arizona, Jan. 17th, 1885. Skull + one claw.

4216. *Tantalus loculator* ♀ ad. Shot at Peck's Lake near the Verde River fifteen to twenty miles north of Fort Verde, Arizona, Sept 13th, 1885. Partly skinned by Major Otie who shot + sent it to me. I cannot, therefore measure the length and alar expanse. The other measurements are as follows: Wing, 470; tail, 165; culmen, 230; gape, 225 From centre of pupil to tip of bill 253 Width of bill at angle of mouth, 46; height at base, 54 Bare tibia 185 Tarsus, 210 Mte, 138; Mt. 125 Cl. 16.5. Colors same as 4213.

Sept. 16th, 1885. Fort Verde, Arizona.

Rode six miles to Parson Bristow's to see Mrs. B. who is suffering from an attack of *facia erysipelas*.

4217. *Pyrocephalus rubinus mexicanus*. ♂ juv. in plumage of the first autumn. Crown red with the feathers dark tipped.

Sept. 17th, 1885. Fort Verde, Arizona.

No. 240. *Tamias asiaticus dorsalis*. ♂ ad.

Total length, 255 Head and body, 122 Tail from root to end vertebrae, 100; to end hairs, 133; greatest breadth, 58. Ears, height above skull, 17; above meatus, 23; greatest width, 12. Tip of nose to eye, 16 to centre of pupil, 19.5 to ear, 30; meatus 32 tip of ear 50; occiput, 40; end of outstretched hind claws 195 Width between outstretched tip of fore claws, 46 Chest girth, 75 Manus 19 Pes 33 ^{between 43} ^{between 46} Leg 60. Longest fore claw 3.5 Longest hind, 4

The tail of the chipmunk is remarkable for its great length, bushiness and beauty of coloration. Viewed from beneath, it presents a median stripe of russet; bordered on either side by stripes of buff black and gray, in the order named. It is contracted at base, the contracted portion

15
Being nearly plain rufous beneath. Above the tail is grizzled with gray black and pale buff; centrally the gray and black are about equal in ~~amount~~ ^{very long} amount, but laterally the pattern of the ~~feathers~~ ^{feathers} of the sides is seen through the grizzled hairs of the dorsum. The tail is much flattened.

4,218. Pencaia ruficeps boucardi ♂ ad. This bird is in the midst of the autumnal moult, showing well the character of the new feathers, but with rectrices & remiges so immature that the measurements would be worthless.

No. 241. Fiber zibethicus ♂ ad. When walking down Beaver Creek, in the twilight, I saw a Muskrat swimming towards me, and shot it. It floundered about, & at length came near the shore, and I seized it by the tail, and, supposing it to be about dead, slipped it into a bag containing a Musk Turtle and a Duck. There were some loose papers in the bag, which rustled and made so much noise during the evening that I got up and investigated and found the Muskrat alive. It had chewed the Duck's head into bits in its rage, and when turned out upon the floor bit furiously at a heavy ebony rod with which I had no little difficulty in pounding it to death.

Total length, 480; Head and body, 270; Tail to end of vertebrae, 208; to end hairs, 210; Ears height above skull, 15; above meatus, 19; greatest width 18; From tip of nose to eye, ^{to center of pupil 33.5} 30; to ear, 55; meatus, 57; tip of ear, 78; occiput, 67; end of outstretched hind leg, 350; Chest girth, 190; Distance between eyes, 28; Distance between outstretched fore feet (tips of claws), 225; Manus, 29; Pis., 67; Arm, 73; Leg, 125; Longest fore claw 9; Longest hind claw 12; Belly girth, 265;

19
4,219 Querquedula cyanoptera. ♂ juv.
420: 670: 200: 87: cul., 45: gape, 50: fore tibia, 15: tars., 34: mte., 47: cl., 10. Irides, orange, bill, brownish black on maxilla and nail on tip of mandible, same on mandible, brownish flesh color, intermandibular membrane, yellowish. Legs & feet orange, webs and claws dusky.

4,220 Querquedula cyanoptera. ♀ ad.
426: 665: 200: 86: cul., 47: gape, 54: fore tibia, 14: tars., 35; mte., 48; cl., 9. Irides, yellowish brown, bill, blue black above, mandible including nail at tip brownish flesh color. Intermandibular membrane, yellowish. Legs & feet, pale yellowish drab, webs & claws, dusky.

4,221. Bubo virginianus subarcticus ♀ ad. Shot in a narrow canon, only 6 feet wide, on Beaver Creek. It flew from a cedar growing in the Canon.
595; 1325; 385: 225: culmen and cere, 44; cere, 18; culmen, 30; gape, 46; tarsus, 63; middle toe and claw, 75; middle toe alone, 32; claw, 31. Stomach ^{empty}.

Notes.

Zonotrichia leucophrys intermedia was first noted Sept. 12th.

Description of Leonepatus mapurito. ♂ ad. No. 246 (See pp. 27, 28) A white dorsal area begins in the median line a little posterior to the orbits, widening posteriorly until covering the upper side of crown, neck ~~and~~ back and entire tail; the latter, however, has a sprinkling of black hairs, which become quite numerous in the median line below, but are mostly tipped with white. The residue of the body is glossy black, with an occasional scattered white hair. The tail is bushy and cylindrical rather than flattened. The elongated snout is bare in front, and above, where it extends backward about 25 mm. forming a triangle with the apex behind. Its color, black.

Sept. 18th, 1885. Fort Verde, Arizona

Mr Mason brought me up two Rats which he caught in his alfalfa field. They are both adult males, having enormous testicles, notwithstanding the discrepancy in their size.

No. 242. Sigmodon hispidus arizonae var. nov. ^{Arizona Cott.} Rat. ♂ ad.
Total length, 320 Head and body, 199 Tail from root to end of vertebrae, 116 To end of hairs, 121 Ears, height above skull, 18; above meatus, 21; Greatest breadth, 21 From tip of nose to eye, 22; to centre pupil, 25; to ear, 36; meatus, 37; tip of ear 60; occiput 48; end of outstretched hind leg, 263; Chest girth 125; Belly girth, 145; Between eyes, 14; Manus 16 Pes 36; Arm, 40; Leg, 69; Longest fore claw 4; Longest hind claw 6; longest whisker, 40.

No. 243. Sigmodon hispidus arizonae var. nov. ^{Arizona Cott.} Rat. ♂ ad.
Total length, 308; Head and body, 173; Tail from root to end of vertebrae, ~~116~~ 129; to end hairs, 135 Ears, height above skull, 15; above meatus, 18; greatest breadth, 19; From tip of nose to eye, 19.5; centre of pupil, 23; ear, 35; meatus, 36; tip of ear, 58. occiput 44; end of outstretched hind claw, 235 Chest girth, 120. Belly girth, 135 Between eyes, 13. Manus, 17. Pes, 35. Arm, 39 Leg 64 Longest fore claw 4 Longest hind claw 5.3

Note on Sigmodon.

These two specimens of Sigmodon are much larger than any specimens which naturalists have hitherto examined, and differ in several particulars from the large southern race of Sigmodon hispidus which Prof. Baird describes as S. berlandieri, and which Dr. Coues subsequently characterized as of barely sub-specific distinctness, naming it S. hispidus berlandieri. These specimens differ so considerably from eastern specimens that they are more worthy of sub-specific rank than either of the other varieties, and I shall probably describe them with further material as Sigmodon hispidus arizonae, upon the following characters:

^{strongly} lined with black

Size very large; color, reddish-brown above, grayish-white below, with the bases of the hairs plumbeous; tail elongated, frequently longer than the trunk.

September 21st, 1885. Fort Verde, A.T.

4222 Tantalus loculator. ♂ ad. Verde River
Irides, gray; narrow. Bill uniformly yellowish-white. Top of head and area in front of eyes and around base of bill bluish-black. Lower eyelid pale bluish-gray. Bare tarsi bluish-gray above shading to plumbeous-black at tibio-tarsal joint. Tarsi blackish. Area around tarso-metatarsal joint & webs mostly yellowish-white. Feet & claws, plumbeous black above; dirty yellowish below.

Length to end of claw, 1400; to end tail, 990; 1750; 500; 170; Culmen, 235; Gape, 225; Centre of pupil to tip of bill, 246; Width of bill at angle of mouth, 48; Height at base, 54; Circumference at base, 170; Length of tibial joint, 280; Bare tibia, 170; tars, 200; Mte, 138; Mt, 121; Cl, 15; From head of tibia to end of middle claw, 600.

4223 Tantalus loculator. ♀ ad. Verde River, ^{cul., 202} gape, 196
Colors of parts the same as above. Wing, 460 Tail 175 Length to end of claws, 1260; to end of tail, 920; Centre of pupil to tip of bill, 218 Width of bill at angle of mouth, 50. Height at base, 50. Circumference at base, 160. Length of tibial joint, 245. Bare tibia, 155 Tarses, 185. Mte 126. Mt, 114. Cl, 14. From head of tibia to end of middle claw, 547. Alar expanse, 1730

4224. Tantalus loculator. ♂ ad. Colors same as No. 4222. Length to end claws, 1375; to end tail, 980; 1800; 485; cul., 228; gape, 220; centre of pupil to tip of bill, 242 Width of bill at angle mouth, 47. Height at base, 50 Circumference at base, 160 Length tib. joint, 270 Bare tibia, 178 Tars. 196 Mte 136 Mt. 123 Cl. 13. Head of tibia to end m.f. 597. Tail, 170

September 21st - Continued from page 21

4225. *Buteo swainsoni* ♂ ad. Verde River. Length to end of claws, 580; to end of tail, 465; 715; 200; 70; cul., 57; gape, 74; bare tibia, 18; tars., 52; Mte., 60; claw, 10; Mt., 50; Iris orange, bill above blackish, below yellowish, claws olive brown, dusky tipped. Legs & feet yellow, brownish on front of tarsi & dorsum of toes.

September 22nd, 1885. Ft. Verde, Arizona.

4,226. *Plegadis falcinellus* ♂ ad. Verde River. Irides, bright carmine. Bare skin around base of bill, interocular space, and area anterior to eye and surrounding it, reddish-purple. Bill, bluish slate-color. Legs, feet and claws purplish-black. Length to end of claws, 840; 627; 1000; 290; 115; Culmen ^{curve} 145; gape, 142; centre of pupil to tip of bill, 158; bare tibia 75; ^{head of tibia to end middle claw,} 350; entire tibia 143; tarsus, 113; mte, 97; mt 75 cl. 49.

4,227. *Plegadis falcinellus* ♂ juv. The youngest specimen having nearly the whole crown white. Irides, clear hazel. Bill dark bluish slate, darkening at the tip. Between rami of jaw, light purplish-gray. Around base of bill, eye, and space in front of eye, dusky slate-color. Claws, black. Legs and feet black tinged with purple. Length to tip of claws, 680; to tip of tail, 503; 910; 260; 100; cul., 92; gape, 93; centre of pupil to tip of bill 110; tibial joint, 125; bare tibia, 56; tarsus, 83; mte, 75; mt 61 cl. 15. From head of tibia to end middle claw, 280.

4,228. *Plegadis falcinellus* ♀ juv. Verde River. Colors like above. Length to end claws, 670 503; 890; 258; 100; cul., 95; gape, 95; tibial joint, 124; bare tibia 56; tarsus, 86; mte, 77; mt, 63; cl, 15. There were 5 Ibises in the flock. One of the two that escaped was the largest one.

September 23rd, 1885. Ft. Verde, A.T. 27

I set a new mouse trap under a large cotton-wood log piled with debris, three days ago. The morning after it was set, it was missing, a curious Raccoon having carried it off. I tracked him and got it back. Then I left it for two days and found the two mice in it.

No. 244. *Hesperomys leucopus* ^{arizonae Allen} ~~eremicus~~ ♂ ad. Total length, 178 Head and body, 90 Tail to end vertebrae, 86 hairs, 90. Ear height above skull, above meatus, 17. Greatest width, 14. Tip of nose to eye, 14.5 centre pupil, 18 ear 24 meatus 26 occiput 32 tip of ear 47. end outstretched hind foot 142. Manus 10.5 Pes. 21.5 Fore leg 26 Hind leg 43 Longest fore claw 2 Longest hind 2.5 Chest girth 70 Distance between tips of claws of outstretched fore claws, 92 Between eyes, 19. Whiskers 43.

Sent to Dr. Merriam. See page 29.

No. 245. *Hesperomys leucopus* ^{arizonae} ~~eremicus~~ - juv. 2/3-grown. Total length 152; Head and body 84; Tail to end vertebrae, 65; hairs, 68; Ear, height above skull, 12; above meatus 15; greatest width 13; tip of nose to eye 13; Ear, 22; meatus 23; centre pupil, 16.5; Tip of ear, 39; occiput, 29; tip of claw of outstretched hind foot, 13.5; Manus, 11; Pes 20; Fore leg 24; Hind leg 39; Longest fore claw 2; Longest hind claw, 3; Chest girth 60; Distance between eyes, 9 Between tips claws of outstretched fore feet, 83.

Sent to Dr. Merriam. See page 29.

No. 246. *Conepatus inapurito* ♂ ad. W. of Squaw Peak, 10 m. from Fort Verde, Arizona. Total length 710 Head and body 415 Tail to end vertebrae, 210 to end hairs, 300 Ear height above crown, 17 above meatus 27 Greatest width, 30. Tip of nose to eye, ^{to front incisor teeth} 49 Centre pupil, 54 ear, 77 meatus 83 tip of ear 107. occiput 113 end outstretched hind leg 570 Manus 65 Pes 82 Fore leg 135 Hind leg, 155 Longest fore claws 1st 21 2nd 19 3rd 20 4th 20, 5th 16.5. Hind claws: 1st 9 2nd 11.5. 3rd 11; 4th 12; 5th 11. Chest girth 330; Belly girth 385; Between eyes 34.

List of Mammals wanted by
 Prof. D. A. Allen for the
 Exhibition Collection
 of the
American Museum of Natural History.

- | | |
|--|------------------------------------|
| <i>Canis latrans</i> | <i>Neotoma fuscipes</i> |
| <i>N. lepida interrupta</i> ♂+♀ ad. | <i>Hesperomys aztecus</i> |
| 1 " <i>mapurito</i> ♂ ad. ♀ juv. | " <i>sonoriensis</i> ♂+♀ ad + juv. |
| <i>Microtus californicus</i> | <i>Thomomys clusius</i> |
| <i>Sorex - any species</i> | ✓ <i>Perognathus penicillatus</i> |
| <i>Sciurus arizonensis</i> | ✓ <i>Lepus arizonae</i> ♂+♀ ad. |
| ✓ <i>Tamias dorsalis</i> ♂ ad ♀ ad. | ✓ " <i>callosus</i> (♂!) ad. |
| <i>Spermophilus mollis</i> | ✓ " <i>texianus</i> ♂+♀ ad. |
| <i>Arctomys flaviventris</i> | <i>Didelphys californica</i> |
| <i>Mus musculus maculatus</i> + juv. in 1 st autumn's pelage, ♂ ad. | |
| <i>Sciurus hudsonius pennsylvanicus</i> ♂ ad + ♀ ad much soiled with spruce gum. | |
| <i>Tamias asiaticus quadrivittatus</i> ♂ ad. | |
| <i>Sciurus aberti</i> in winter pelage with cast tufts ♂ ad ♀ ad. | |
| <i>Spermophilus grammurus grammurus</i> ♂ ad. ♀ ad. | |
| <i>Spermophilus tereticaudus</i> ♂ ad ♀ ad. | |
| <i>Thomomys talpoides umbrinus</i> ♂ ad ♀ ad. | |
| <i>Mus delmerianus</i> | |
| <i>Mus musculus</i> - ? ad. | |
| <i>Peromyscus leucopus eremicus</i> - ♂+♀ ad + juv. | |
| <i>Hesperomys leucogaster torridus</i> poor spec. | |
| <i>Lepus sylvaticus mittelli</i> | |
| <i>Lepus sylvaticus arizonae</i> ♂+♀ ad. | |
| <i>Canis virginianus crookii</i> ♂ juv. Skin 6 species + skull. | |
| " " <i>mexicanus</i> | |
| <i>Sigmodon hispidus arizonae</i> ♂ ad ♀ ad. | |
| <i>Castor fiber canadensis</i> | |
| <i>Felis concolor</i> ♂ ad + ♀ ad. | |
| <i>Bassaris astuta</i> ♂ ad + ♀ ad. | |

September 29th, 1885 Ft. Verde Ariz.

Rode 20 miles to head of Beaver Creek to see a patient. Thinking I might see a Deer, I carried a "Long Tom" (Hot Luft rifle). Shot two *Lepus callosus texianus*, 1 *Lepus sylvaticus arizonae*, 1 *Tamias harrisi*, 2 *Lophortyx gambeli*, and one *Amphispiza belli nevadensis*, the latter for identification Stuart.

Note. Mr. Daniels saw a male at his place, in Fossil Creek, December 15th, 1885, of *Cardinalis cardinalis superbus*. I have seen but one, a female, in the Verde Valley, although the species is abundant 20 miles west of Verde on streams tributary to the Gila (the Agua Fria, Ash Creek and Big Bug Creek).

Recurvirostra americana Sw. American Avocet

Number	Date	Locality	Length to end of claws	Length to end of tail	Alar expanse	Wing	Tare	Weight (stomach)	Beak	Leg from tip of tarsus to tip of claw	Tarsus	Middle toe + claw	Middle toe	Middle claw	Hallux	Toe claw	Inner toe	Toe claw	Outer toe	Toe claw	Inner met	Outer met	% of tail to center of wing	Remarks		
4229	1885 ♀ ad Sept. 30	Ft. Verde, Arizona	590	450	770	236	92	90	95	254	118	61	96	46	38	7	4.5	2.2	33	5	36	4.5	19	23	108	These birds uttered a tuit-tuit cry resembling the Killdeer's. They swam gracefully and waded in shallow water. They are gregarious, but scatter in such a way that it is difficult to kill more than two or three at a shot.
4230	♂ ad Sept. 30	Ft. Verde, Arizona	635	472	790	237	97	98	104	280	128	75	103	50	44	6	5	2.8	37	40	4.5	22	26	118		
4231	♂ ad Sept. 30	Ft. Verde, Arizona	575	445	755	230	93	85	90	250	104	61	89	45	39	6.6	5	2.7	34	5	37	4.5	19.5	21.5	103	
4232	♂ ad Sept. 30	Ft. Verde, Arizona	615	447	780	234	85	90	95	280	126	74	102	49	42	7	5	3	34	5	39	4.5	18.5	22.5	108	
4233	♂ ad Sept. 30	Ft. Verde, Arizona	640	493	800	248	102	102	108	280	127	76	101	48	42	6	5.3	2	36	6	38	4.5	20.5	21.5	123	
4234	♀ ad Sept. 30	Ft. Verde, Arizona	565	425	755	235	88	83	89	258	120	67	94	46	41	5.5	4.5	2.5	35	5	37	4.5	18	21	100	
4729	♀ ad May 10	Agua Fria, "	600	453	775	237	95	89	94	267	126	69	96	49	43	6.2	5	2.7	35	5	38	4.5	19.5	22	106	
4739	♀ ad May 17	Upper Verde River "	595	453	750	236	88	92	97	255	113	58	98	47	42	7	5.5	2.8	34	5.3	36	4.8	17	21	109	
5238	♂ ad Sept. 25	Ft. Verde, Arizona	620	467	790	235	92	90	97	267	125	71	97	48	42	5.3	5	2.6	34	4.4	38	3.9	18	22	111	
5250	♀ ad Apr. 18	Ft. Verde, Arizona	596	455	792	233	90	86	91	265	120	65	96	50	43	7	6.6	3	35	5	38.5	4	20	24	104	
5251	♂ ad Apr. 18	Ft. Verde, Arizona	634	481	798	245	93	101	106	248	124	70	103	52	43.5	7.3	4.5	2.2	34	5.2	39	4.5	20	25	120	
5252	♀ ad Apr. 18	Ft. Verde, Arizona	575	446	773	232	91	80	86	248	117	66	89	46	39	6.5	5	2	32	6	36	4.4	20	22	99	
5260	♀ ad Apr. 24	Ft. Verde, Arizona	588	448	770	232	90	85	91	245	117	60	91	46	39	6.2	5	2	38	5.6	37	4.5	19	23	105	
5657	♂ ad Sept. 27	Ft. Verde, Arizona	600	460	770	233	96	89	93	256	120	61	96	44	38	6.4	6	2	32	5	35	4	18	21	106	

No. 250. *Dipodomys* ~~*serripes*~~ *Phillipsi ordii*, Woodh. ♀ ad. Ord's Pocket Rat, Kangaroo Rat.
 Total length, 280; head and body, 107; tail from root to end of vertebrae, 148; to end of hairs, 175; ear height above crown, 11; above meatus, 12; greatest breadth, 12; tip of nose to eye, 24; to center of pupil, 26; to ear, 35; to meatus, 35; to tip of ear, 50; to occiput, 42; to end of outstretched hind claws, 180; manus, 11.5. Pes, 38. Fore leg, 29; hind leg, 68; longest fore claw, 6.2; longest hind claw, 4; longest whiskers, 6.2; chest girth, 80; width of terminal pencil of hairs of tail, 42; check pouches filled with seeds. Width between eyes, 18; ^{claws, reddish brown} tipped with white.

No. 251. *Thomomys talpoides umbrinus* ♀ ad.
 Total length, 210; head and body, Tail from root to end of vertebrae, 74; to end of hairs, 76. Ear height above crown, 4.5; meatus, 6; width, 6. Tip of nose to eye, 18; center of pupil, 20; ear, 31; meatus, 30; tip of ear, 37; occiput, 42; end of outstretched hind claws, 180; manus, 24.5; Pes, 29. Fore leg, 48; hind leg, 49. Longest fore claw 8; longest hind claw, 5.2. Chest girth, 105. Width between eyes, 16. Distance between tips of claws of outstretched fore claws, 135.

No. 252. *Onychomys leucogaster* ♀ juv. White-backed Skunk.
 Total length, 560; head and body, 280. Tail to end of vertebrae, 200; to end of claws hairs, 270. Ear height above crown, 12; above meatus, 19; greatest width, 24. From tip of nose to eye, 39; to center of pupil, 44; to ear, 64; meatus, 67; tip of ear, 86; occiput, 90. End of outstretched hind claws, 420. Distance between eyes, 24. Manus, 59. Pes, 64. Fore leg, 98. Hind leg, 115. Longest fore claw, 20.2; longest hind claw, 11.5. Chest girth, 195. Greatest breadth of tail, 190. ^{skin small}

4235. *Scardifella inca* ♂ ad. Irides, carmine. Bill, dark plumbeous; feet and tarsi, flesh-color; claws, dusky, 209; 282; 91; 98; cul., 12; gape, 16; tarsus, 20; claw, 5. Shot in an ash-tree into which it flew with a flapping noise from the ground under a rank growth of cactus + weeds through which I was forcing my horse.

October 2nd, 1885. Fort Verde, A.T.

4236 *Phalaenoptilus nuttalli* (Aud.) Ridg. ♀ ad.
207; 437; 154; 92; culmen from feathers, 10.5
nostril, 6.5; gape, 30. Longest nasal bristles, 34.
tarsus, 1.7; mtc, 2.3; cl., 6. Irides hazel. Anterior
surface of tarsi & dorsum of toes, purplish-gray
; posterior aspect of tarsi & under surface of
feet, flesh-color; claws, dusky-plumbeous.

Shot at night, upon the roof of Captain
Markland's quarters.

No. 253 *Sitomodon hispidus arizonae* nov. var. ♂ juv.
Total length, 270; Head and body, 147; Tail to
end of vertebrae, 116; to end of hairs, 123; Ear, height
above crown 17; above meatus, 20; greatest width,
21. From tip of nose to eye, 17; centre of pupil, 30;
ear, 32; meatus, 32; tip of ear, 57; occiput
40; end of claws of outstretched hind leg, 205. ²³Manus
16 Pes 36 Fore leg 27 Hind leg 63 Longest
fore claw, 4. Longest hind claw, 5 Chest girth, 115.
Distance between eyes, 11.5. Longest whiskers, 38.

No. 254 *Neotoma ^{intermedia albicula} floridana mexicana* ♂
Total length, 315. Head and body, 173. Tail, from root
to end of vertebrae, 136; to end of hairs, 142. Ear height
above crown, 25; above meatus, 28; greatest width,
24.5. From tip of nose to eye, 24.5; centre of pupil,
27; ear, 37; meatus, 38; tip of ear, 72.
occiput, 51; end of claws of outstretched hind leg,
238. Manus, 18.5 Pes, 33. Fore leg, 43. Hind
leg, 64. Longest fore claw, 3. Longest hind claw,
4.2. Chest girth, 110. Distance between eyes, 13.
Longest whiskers, 74. All of the claws are white.

October 3rd, 1885. Ft. Verde, A.T.

No. 255 *Hesperomys leucopus ^{arizonae} eremicus* ♂ juv. (two-thirds grown).
Total length, 165. Head and body, 90. Tail to end vert., 74
to end hairs, 76. Ear, height above skull, 14; above meatus, 16.
greatest width, 14. From tip of nose to eye, 14; to centre
of pupil, 16.2; to ear, 22; to occiput, 30; meatus, 23
to tip of ear, 41; to end of outstretched hind claw, 133;

manus, 11. Pes, 21. Fore leg, 25. Hind leg, 39.
Longest fore claw, 2. Longest hind claw, 2.9.
Chest girth, 65. Distance between eyes, 9.
Longest whiskers, 40.

No. 256 *Mephitis mephitis* ♂ juv. Skull only preserved.
October 8th, 1885. Ft. Verde, A.T.

4237 *Onco cinereus dorsalis* ♂ ad. Killed near mouth of Beaver Creek.
109; 260; 83; 79; cul, 13; gape, 14.5; tarsus,
21; mtc, 21; cl., 6. Irides, hazel. Bill with
maxilla blackish, mandible grayish-brown.
Tarsi & feet, light reddish-brown; claws, dusky.
This is the first one seen at Verde. I shot one
on Oak Creek last winter, and they were very
abundant in the Mogollon Mts. between Verde
and Apache during last October. Not seen elsewhere.

4238 *Totanus melanoleucus* ♀ ad. Length to end toes, 444.
355; 635; 200; 84; cul., 56; gape, 62; from tibio-
fibular joint to end of toes 187; tibial joint 85; bare
tibia, 46; tarsus, 66; mtc., 41; cl., 6.5. Irides, hazel.
Bill, blackish. Legs & feet, yellow; claws, dusky.
Waded into the water up to its body.

No. 257 *Mephitis mephitis* ♂ juv. Skull only preserved.
October 9th, 1885. Ft. Verde, A.T.
Anthus ludovicianus ♂ ad. Bank of the Rio Verde.
172; 272; 88; 73; ear, most, 9.5; gape, 17.5; tarsus, 24;
mtc, 19; cl., 5.
Anthus ludovicianus ♀ ad.
164; 256; 83; 60; most., 9; gape, 17; tarsus, 21; mtc,
mtc, 18; cl., 5.

October 10th, 1885. Ft. Verde, Ariz.

No. 258 *Mephitis mephitis* ♀ juv. Skin and skull.
Total length, 655. Head and body, ^{greatest width, 28} Tail to end
vertebrae, 270; to end hairs, 360. Ear, height above-
crown, 15; above meatus, 24; greatest width,
22. From tip of nose to eye, 32; ear, 58; centre
of pupil, 36; meatus, 60; tip of ear, 84;
occiput, 79; end outstretched hind claw, 450.
Chest girth, 160. Between eyes, 21. Manus, 45.
Pes, 63. Fore leg, 92. Hind leg, 112. Longest fore
claw, 14. Longest hind claw, 9.5. Distance between
tops of claws of outstretched fore feet, 295. Longest whisker, 31.

October 10th - Continued

4,239. *Accipiter fuscus* ♂ juv. Hunting Gambel's Quail when shot. 295; 575; 180; 150; cul. & cere, 16; cere, 7; cul., 10; gape, 15; tarsus, 51; mte 39; mt 30; cl. 10. Irides, yellow. cere dusky, plumbeous lined above with yellow. Bill & claws, blue-black. Tarsi and feet greenish-yellow.

4,240. *Accipiter fuscus*, ♂ juv. It was also hunting Quails. Colors of soft parts like No. 4,239 except that the cere lacks the yellow median stripe. 290; 540; 177; 150; 146; cul & cere, 16; cere 7; cul 10; gape, 15; tarsus, 53; mte, 39; mt, 30; cl. 10.

4,241. *Buteo borealis calurus* ♀ juv. 600; ~~430~~ wing, 430; 260; cul & cere (chord), 40; cere, 17; cul, 27; gape, 46; tars., 93; mte., 71; mt., 45; claw, 26. ~~stretch~~ stretch, 1410. Tail only preserved. Stomach contained a gopher (*Thomomys talpoides umbrinus*).

October 11th 1885 Ft. Verde, Ariz.

No. 259. *Hesperomys flavescens sonoriensis* (not typical) ♂ ad. ^{arizonae} Total length, 167. Head and body 86. Tail from root to end of vertebrae, 77; to end of hairs, 81. Ears, height above crown, 14; above meatus, 17; greatest width, 13. From tip of nose to eye, 14; to centre of pupil, 16.5; to ear, 23; meatus, 24; tip of ear, 42; occiput, 30; end of outstretched hind foot, 133; chest girth, 60; between eyes, 9; longest whiskers, 36. Manus 12; Pes, 21; Fore leg, 26; Hind leg, 39. Longest fore claw, 2; Longest hind claw, 2.7. Distance between claws of fore feet extended, 88. Caught beside the Rio Verde. Scales, hairy.

4,242. *Pipilo aberti* ♂ ad. Moulting rectrices; longest perhaps not grown out. Shot by E.W.M. 242; 302; 92; 123. Culmen, 16.5; gape, 17.5; tars., 29; mte., 28; cl., 8.5.

4,243. *Zonotrichia intermedia* - juv. Shot by E.W.M. 180; 254; 82; 80; cul., 12; gape, 12.5; tars., 23; mte., 22; cl., 6.5. Irides, hazel. Bill with mandible reddish brown, dusky tipped; maxilla yellow. Tarsi & soles of feet brownish yellow. Feet brown; claws, dark brown.

4,244. *Zonotrichia intermedia* - juv. Colors of soft parts a little darker than No. 4,243. 177; 260; 84; 81; cul., 12; gape, 12.5; tars., 24; mte., 23; cl., 7.

October 12th 1885 Ft. Verde, Ariz.

No. 260. *Taxidea americana berlandieri* ♂ ad. Total length, 650. Head and body, 475. Tail to end of vertebrae, 130; to end of hairs, 175. W. of nose to eye, 55; to centre of pupil, 60; ear, 93; meatus, 158; tip of ear, 145; occiput, 150; end of outstretched hind leg, 650. Ears height above crown, 32; above meatus, 55; greatest breadth, 50. Distance between eyes, Chest girth, 300; Distance bet. outstretched fore claws, Distance between outstretched hind claws, 465; Manus, 104. Pes, 102. Fore leg, 174; Hind leg, 157; Breadth of fore foot, 40; Breadth of hind foot, 33; Length of 1st (inner) fore claw (chord) - 26; 2nd, 31; 3rd, 30; 4th, 30; 5th, 26. Length of 1st (inner) hind claw, 15; 2nd, 17; 3rd, 14.5; 4th, 17; 5th, 13.5; Distance from angle of mouth to front of incisor teeth, Width of muzzle, 20; Belly girth, 350; Distance between angles of mouth, 40. Skin preserved. Width of manus, 40; width of feet, 35. Skull comminuted.

4,245. *Dendroica audubonii* ♂ ad. 154; 245; 83; 67; post. 8; gape 13.5; tars. 19; mte., 16; claw, 4.5.

October 13th 1885 Ft. Verde, Ariz.

4,246. *Scardafella inca* ♂ ad. 217; 285; 92; 99; cul., 11; mte., 9; gape, 15; tars., 16; mte., 21; cl., 6. Iris light red.

4,247. *Scardafella inca* ♀ ad. 216; 284; 92; 103; cul., 12; mte., 9.5; gape 15.5; tars., 17; mte., 20; claw, 5.5. Iris yellow. In both the bill is dusky plumbeous, legs & feet pinky-white, claws dusky.

No. 261. *Hesperomys leucopus eremicus* ♂ juv. ^{arizonae} No measurements taken.

October 14th 1885. Ft. Verde, A.T.

No. 262 *Castor fiber canadensis* ♂ ad.
Total length, 1130; Head and body (to anus), 760 Tail
from anus ~~to~~, 365; from hairs, 280; greatest
breadth, 150; from anus to end hairs 105
Tip of nose to eye 73; to centre of pupil, 80; ear,
130; meatus, 140; tip of ear, 190; occiput, 160
end of claws of outstretched hind leg, 940 Distance
between outspread hind feet (tip claws) 770
Chest girth, 610; belly girth, 810; Pes, 182
Hind leg, 280; Manus, 83; Fore leg, mutilated.
Longest whiskers, 105; Between eyes, 70.
Hind claws: 1st (inner) 15; 2nd 19; 3rd 26; 4th 25; 5th 17.
Fore claws: 1st (inner) 18; 2nd 20; 3rd 23; 4th 18; 5th 14.
Breadth of outspread hind feet, 165; Width of
manus, 35; height of ear above crown 27; Meatus 39
Greatest width 45

No. 263 *Onychomys leucogaster* ♂ juv. Longitudo totalis ~~330~~
Head and body, Tail from root to end hairs, 330.
vert., 245; Ear above crown 15; meatus, 23
greatest width 25; from tip of nose to eye, 40; centre of
pupil, 47; ear, 67; meatus, 73; tip of ear, 93;
occiput, 100; end of outstretched hind leg, 490
Tail, greatest breadth, 220. Chest girth 190; Abdominal
girth 235. Between eyes, 25; Front of snout to
front teeth 24; Manus, 63; Pes, 71; Fore
leg, 120; Hind leg, 125; Longest fore claw 23
Longest hind claw, 13; Between tips of fore claws, 335
Tip of snout to hairs above, 24.

October 15th 1885. Ft. Verde, Arizona

No. 264 *Hesperomys arizonae* ~~*leucopus*~~ ~~*sonoriensis*~~ ♂ ad. Testicles large
Total length, 164; Head and body 86; Tail to end vert. 74
to end hairs, 78; Ear height above crown 15; meatus 17
greatest width, 12; Longest whiskers 33; Chest girth 55
Between eyes, 8.5; Tip nose to eye 4; centre pupil 16; ear 23
meatus 24; tip ear 40; occiput 29; outstretched hind leg 129
Distance between claws across shoulders, 90; Manus 11.5

Pes, 21.5; Fore leg, 26; Hind leg 40; Longest fore
claw, 1.9; Longest hind claw, 2.3

4248. *Picus scalaris* ♂ ad. 197; 347; 112; 75; Cul, 24
gape, 26; tars 18; mte, 20; cl., 9.

October 16th 1885. Fort Verde, Arizona

4249 *Tamias ludovicianus eximiorides* ♂ ad. 235; 333;
107; 108; Cul, 17; mte, 13; gape, 26; tars, 30; mte, 26; cl. 8.

4250 *Buteo borealis calurus* ♂ juv. 590; 1360; 430; 265;
cul. + cere, 39; cere, 15; cul, 26; gape, 43; tars, 86; mte, 67;
Mt, 47; cl, 24; Stomach contained a striped snake.

October 17th 1885.

No. 265
~~4251~~ *Castor fiber canadensis* ♂ juv.
Total length, 800; head + body (to anus), 520; Tail, from
anus, 280; from hairs, 220; greatest breadth, 88; from anus
to end of hairs, 65; tip of nose to eye, 50; to center of
pupil 53; ear, 104; meatus, 112; tip of ear, 135; occiput, 135;
end of claws of outstretched hind leg, 670; distance between
outspread hind feet (tip claws) 575; chest girth, 350; belly
girth, 510; Pes, 150; hind leg, 215; manus, 68; Fore-
leg, 150; longest whiskers 75; between eyes, 55
Hind claws 1st (inner) ; 2nd ; 3rd ; 4th ; 5th ;
Fore claws (inner) ; 2nd ; 3rd ; 4th ; 5th ;
Breadth of outspread hind feet, ; Width of manus, 27;
height of ear above crown, 29; Meatus, 32; greatest width, 35;
Distance between outspread fore feet, 430.

No. 266 *Hesperomys leucopus arizonae* ~~*eremicus*~~ ♀ juv.
Caught in Post Hospital. Total length 262; Tail to end hairs 85
October 18th 1885. Ft. Verde, Arizona.

No. 267 *Mephitis mephitis* ♀ ad. Total length, 790;
Head + body, 345; Tail from root to end vert., 335; hairs, 445; Ear
above crown 18; above meatus 25; greatest width, 19; Tip of
nose to eye 34; centre pupil 40; ear, 62; meatus,
65; tip of ear 80; occiput, 87; end of hind leg, 525;
Chest girth 210; Between eyes, 26; Manus 57; Pes, 72;
Fore leg, 107; Hind leg 135; Fore cl. 16; Hind cl., 12
Breadth of tail, 340; Tip of nose to front teeth, 16;

October 19th, 1885. Ft. Verde, A.T.

4321. *Eremophila alpestris*, ^{areneola (fielding)} ~~chrysoloma~~ ♂ ad. 178; 230; 107; 74; cul., 12; noet., 8.5; gape, 15.5; tars., 21; mte., 17; mt., 11.5; cl., 6; hind claw, 11.5.

4322. *Dendroica audubonii* ♂ (ad?) 148; 240; 79; 62; noet., 7.5; gape, 13.5; tars., 20; mte., 17; cl., 5.

No. 268 *Melospiza cinerea*. ♂ ad. Skull only preserved. Total length, 760. Head and body, . Tail, from root to end of vertebrae, 245; to end of hairs, 395. Ears, height above crown, 18; above meatus, 25; greatest width, 22. From tip of nose to eye, 35; centre of pupil, 40; ear, 63; meatus, 64; tip of ear, 87; occiput, 85; end of outstretched hind foot, 480. Between eyes, 25. Chest girth, 250. Manus, 58. Pes, 74. Fore leg, 112. Hind leg, 130. Longest fore claw, 20. Longest hind claw, 13. Longest whiskers, 41. Greatest breadth of tail, 400.

October 20th 1885. Fort Verde, A.T.

No. 269. *Peromyscus leucopus* ^{anthonyi} ~~eremicus~~ ♂ ad. Probably the parent of No. 266, ♀ juv. Both were caught in a closet in the Hospital kitchen. Total length, 180. Head and body, 84. Tail to end vertebrae, 92; hairs, 96. Ears above crown, 16; above ^{notch} meatus, 18; width, 13.5. ~~Least~~ greatest breadth, Tip of nose to eye, 12; centre of pupil, 14.5; ear, 22; meatus, 22; tip of ear, 41; occiput, 28; end of hind foot, 127. Between eyes, 7.5. Chest girth, 56. Longest whiskers, 42. Manus, 10.5. Pes, 20. Fore leg, 23. Hind leg, 39. Fore claw, 2. Hind cl., 2.4. A very old, pale specimen, perfectly typical of the var. *eremicus*, with sides bright ochre.

No. 270. *Mus musculus*. Common Mouse. ♂ ad. Caught by cat in my quarters. Total length, 180; head and body, 82; Tail to end vertebrae, 95.5; to end hairs 98. Ear height above crown, 11; above meatus, 14; width, 10. From nose to eye, 10; centre of pupil, 12.5; ear, 20; meatus, 20; tip of ear, 36; occiput, 26. Manus, end of outstretched hind foot, 122.

Manus, 9. Pes 20.5. Fore leg, 20. Hind leg 35. Longest fore claw, 2. Longest hind claw 2.1. Longest whiskers, 28. Chest girth, 58. Between eyes, 7.

4251. *Myiadestes townsendi*. ♂ ad. 119; 347; 115; 104; ~~not~~ ^{not} cul., 7.2; g. culmen, 13.5; gape, 19; tarsus, 21; mte., 22.2; claw, 6.3.

4252. *Gallinago media wilsoni*. ♀ ad. Irides, hazel, ~~becoming gray~~ Bill grayish above, becoming dusky towards tip and yellowish along lower edge of ramus of mandible. Legs and feet olivaceous gray. T. claws, plumbeous. (This is a good description of soft parts, as the specimen is a fine adult.) Length to end claws, 332; 285. 438; 136; 60; cul., 65; gape, 63; from centre pupil to tip of bill, 83; from head of tibia to end of middle claw, 117; tibia, 54; bare part of fibula, 15; tars., 31. Mte., 37; mt., 31; cl., 6. Outer toe, Hallux + cl., 11; cl., 3.

October 23rd 1885. Ft. Verde, Arizona

Yesterday I saw the first Marsh Wren that I have seen on the Verde River, although they were numerous in Montezuma Well the end of last October, and were found at the Ah-Supai Indian Village in Cataract Creek Canon in November. This one was singing in a tangle of vines and brushwood beside the Verde. The song resembles, but is still unlike that of the Eastern race, *T. palustris*.

To-day I saw another Marsh Wren on the Sluiceway of the Verde River near the Post. It was observed for some time. It uttered a hard rattling call note ("chick-ick, chick, chick, chick-ick") slowly repeated, and answered an imitative call and came up to see me showing some excitement.

4253. *Telmatodes paludicola*. ♂ ad. Irides, hazel. Bill with maxilla dark purplish-brown, mandible light brownish flesh-color. Lip + feet purplish-brown, the latter flesh-color beneath. Claws, plumbeous brown. 137; 183; 59; 55; cul., 15; noet., 10; gape 17.5. Tarsus, 21; mte., 18; cl., 5.

October 23 - Continued.

- 4254 *Lophophanes wolweberi* ♀ ad. Irides, brown. Bill dusky-plumbeous, with a pale line along commissure. Tarsi feet + claws, bluish-gray. 129; 202; 65; 62; cul, 9; nost'l, 7; gape, 10.4. Tarsus, 16; nte, 15; mt, 11; cl, 5. ^{immature}
- 4,255 *Sphyrapicus varius nuchalis* ♂ ad. 218; 395; 128. 84; cul, 24; gape, 27; tarsus, 20 nte 23 mt 16 cl 9.

October 24th 1885. Fort Verde, Arizona.

No. 271. *Hesperomys leucopus eremicus* ^{authentic} ♂ ad. Caught in a closet with the following at the Post Hospital. Total length, 185. Head and body, 86. Tail to end vert., 95. hairs 99. Ears, height above crown, 17; above notch 18.5. Greatest width, 14. Tip of nose to eye, 12.6; centre pupil 15. ear 2.2 meatus 2.2 tip of ear 4.1 occiput 28 end hind cl., 127. Chest girth 56. Between eyes 8. Manus 11.2 Pes 21. Fore leg 22.2 Hind leg 38. Fore cl. 1.8 Hind cl. 2. Longest whiskers 40. Between tips of claws of outstretched fore feet, 83. Hind feet spread, 110. Feet naked below.

No. 272. *Hesperomys leucopus eremicus* ♀ ad. Total length, 175. Head and body 76. Tail to end vert., 95; hairs, 99. Ears, height above skull, 16.5. notch, 18.5; breadth, 14. Tip of nose to eye, 13; centre pupil, 15.5; ear, 21.5. meatus, 2.2; tip of ear, 4.1; occiput 28 end hind leg 22.5. Chest girth 50; between eyes, 7. Manus, 11. Pes, 20. Fore leg 23.5 Hind leg, 40. Fore cl 1.8 Hind cl., 2. Longest whiskers 39. Between fore feet 85. hind feet 115.

4,256. *Oroscoptes montanus* ♂ ad. Irides, yellow. Bill, plumbeous black, flesh-color on ramus of mandible. Legs + feet mottled, with dusky livid-rufous, and dull yellowish, the latter color predominating behind and beneath. Claws, black, 230; 325; 106; 102; cul, 20 nost'l 14 gape 27 tars 30 nte 27 mt 19 cl 7.5

4,257 *Oroscoptes montanus* ♀ ad. Colors same as above. 222; 315; 99; 94; cul 18.5 nost 12.5 gape 25.5 tarsus 31 nte, 25; mt, 20; cl, 5.5. From a flock. They uttered a note resembling that of *Dialia mexicana*.

October 25th 1885. Ft. Verde.

- 4258 *Cylocichla unalaschkae* ♂ ad (sex positive) ad. Irides, hazel-dark. Bill with basal half of mandible flesh-color, residue brownish-black. Tarsi and feet brownish flesh-color, the latter darkest. Claws more dusky. 174; 276; 91; 69; cul, 14; nost., 9.5; gape, 21; tarsus, 28; nte, 21; mt, 16; cl., 5.
- 4259 *Thryomanes bewicki leucogaster* ♂ ad. Maxilla blue-black; mandible flesh-color at base shading through bluish-gray to a blue-black tip. Tarsi, feet and claws, dusky plumbeous. 144; 187; 60; 67; cul, 16; nost'l, 9; gape, 18; tars., 20; mt., 12; cl., 5; nte., 16.5.
- 4260 *Sturnella neglecta* ♂ ad. 262; 420; 29.83. Cul 35; gape, 37; tars 40 nte 33 cl 9

October 26th, 1885.

No. 273 *Spizella interupta* ♂ ad. Total length 480. Head and body, 260. Tail from root to end of vertebrae 105; to end of hairs, 220; greatest breadth, 250. Ears, height above skull, 16 above meatus —; above notch, 23; greatest width, 22. From tip of nose to eye, 24 centre of pupil, 29; ear, 44; meatus, 45 tip of ear, 66 occiput, 62; end hind leg, 335. Manus, 35. Pes, 44. Fore leg, 68. Hind leg, 75. Breadth of fore foot, 12; of hind foot 11. Length of first (inner) fore claw, 16.5. 2nd, 10.5; 3rd, 9.4; 4th, 10; 5th, 7. Length of first (inner) hind claw, 6.5; 2nd, 6.2; 3rd, 6; 4th, 6.1; 5th, 6. Distance between eyes 17.5. Chest girth, 185. Longest whiskers, 33. Color black with white markings. Head with a triangular area of white, apex in front 12 mm behind the naked muzzle; a white patch in front of each ear, and a stripe beginning at the ear and extending backward across the shoulder to near the middle of the body, enclosing between these two broad stripes a white dorsal area traversed by two narrow longitudinal stripes. Two interrupted white.

abundant the throughout the vegetation of
corn, and hundreds were hoarded with
straggle upon a realiboring...
until the air was filled with the...
of their composition, birds, etc.

- 7. *Larus californicus*
 - 8. *Larus californicus*
- Birds:

1. *Hyalocichla analostanus*. Two Dwarf Kinglets
were seen in the shade of the...
and box of... on the... of the...
2. *Melospiza nigrola* *provincialis*. Many large
flocks feeding in the... and
winter along... Brook
3. *Catherpes mexicanus*
4. *Proscopetes montanus*
5. *Regulus satrapa*
6. *Chondestes motacilla*. Beside... Brook
7. *Sitta carolinensis aculeata*. One on the
cottonwood beside the house.
8. *Tamias striatus* *fulvicauda*. Told...
were seen wherever there were holes, cat-tail
and water. They were singing.
9. *Empidonax auduboni*. Everywhere.
10. *Empidonax griseus* *eximius*
11. *Empidonax griseus*. In large flocks
12. *Empidonax griseus* *hyaliridus*. Feeding on... flowers.
13. *Empidonax griseus* *intermedia*. Singing
14. *Empidonax griseus* (?) Very abundant.
15. *Empidonax griseus* *meridionalis*. Common. It
is a twitter-like... *meridionalis*.
16. *Pipilo aberti*. Abundant
17. *Melospiza fasciata* *fallax*. Abundant.
18. *Thryothorus nigricapillus*. Abundant.
19. *Corvus corax* *corax*.
20. *Corvus corax* *corax*.

21. *Colinus virginianus* *calurus*. - The new...
22. *Spizella monticola*. - Sources...
23. *Spizella monticola* *monticola*. - Abundant.
24. *Spizella monticola* *monticola*. - Abundant.

11. *Buteo borealis* *calurus*. - The new...
550; 1310; 390; 230; Cul. + cere, 42; cere, 19
Culmen, 27; gape, 48; tarsus, 64; mtc, 72
cl., 30. Stomach contained Wood Rat ^{small} bones, etc.

November 1st 1885. Ft. Verde, T.

10. 276. *Thryothorus* *monticola* *monticola*. - Ad. ...
192. Head and neck, 126; tail to end of tail
feather, 66. Ear weight above ear, ...
above notch, 6; above beak, 5.5; ...
nose to eye, 17; center of pupil, 18.8; ear, 27;
measles, 29; tip of ear, 32; occiput, 37; ...
hind leg, 180. Tarsus, 24; Pes, 26. ...
Diddle, 47. Longest fore claw, 8.5; ...
Longest hind claw, 33. Chest girth, 80. Pet. eye, 13.

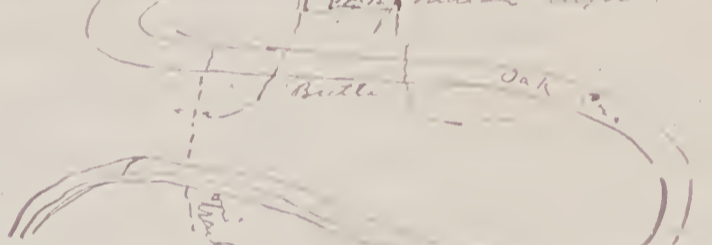
November 4th 1885. Cherry Brook, T.

1264. *Cyanocitta* *massana*. - Ad. Length to end of claws
254; 228; 143; 180; 60. Culmen 14. ...
mt. 6, 33. Claw 11.5; mt 21.5. Gape filled with seeds of
mesquite and other plants and several ...
This bird was shot from the main ...
Cherry Brook, by ...
with a small pistol.

November 6th 1885. Ft. Verde, T.

Took 16 miles up on Oak Creek to ...
son who was ill. As the night was dark and I
did not reach there until after dark, I concluded
to stay all night. Their house is a log, ...
with mud and ...

were shown and conversation was kept
 and continued to hear the sound of the sea
 bathing, close to the house. Birds of the
 were heard, humming over the crown of some
 pines a more high in Eastern Chichén. The
 matter of the business was heard and I saw
 Quails, Robin, Gambel's Sparrows and many
 other birds were heard. Ducks were seen, many
 and Great Blue Herons looked exceedingly picture
 sitting on dry limbs of cottonwood trees and
 upon the mud walls of the ancient aztec
 ruins when prominent points along the shore.
 I returned to Verde through a canyon and
 saw a remarkable aztec house or fort
 upon the summit of a tall square butte



Pucara ruficeps boucardi and *Cephalopoda*
belli nevadensis were abundant upon the
 white limestone mesa among the grasslands.
 The latter hold their tails like *horridus* but
 usually like a Wren or Road-runner.

November 7th 1885. Fort Verde, A.T.

Cardinalis cardinalis suberbus, Ridgway, A.
 beautiful Arizona Cardinal. This bird was seen
 in the road near the Verde crossing. It was
 very gentle, merely slipping beneath a mesquite
 as I rode past. An hour later, I searched for
 it carefully but could not find it. This is
 the only Arizona Cardinal I ever saw in the
 Verde Valley, although I found it quite abundant
 within 20 miles, on Big Bug, Ash Creek and
 the Agua Fria, where it breeds.

Lanius ludovicianus excubitorides. - I notice
 a great many in the Verde Valley. Fresh tracks
 were seen.

November 9th 1885. Ft. Verde, A.T.

4265. *Spinunculus sharpsii*. ♀ juv. 280; 600; 205; 138
 cul. at cere, 16.5; cere, 4; t. 13.5; gape, 18;
 tarsus, 37; mte, 33; cl., 11. Cere legs, feet yellow.

4266. *Hyalocichla malincheae* ♂ juv.
 177; 283; 93; 77; cul., 12.5; mte, 8; gape, 19
 tars., 29; mte, 2, 2; mt., 17; cl., 4.8. Irides hazel.
 Bill with basal half of mandible flesh-color; rest
 black. Tarsi toes & claws, dusky, purplish-brown.
 Tarsi behind and under surface of feet, yellowish
 flesh-color.

4267. *Hyalocichla malincheae* ♀ ad.
 174; 267; 89; 75; cul., 15; mte, 10; gape, 21;
 tarsus, 27; mte, 23; mt., 16.8; cl., 6.

4268. *Melospiza lincolni* ♀ ad. 151; 205; 66; 68
 cul., 11; gape, 13; tarsus, 21; mte, 20; mt., 15; cl., 5.6.
 Irides hazel. Bill, dark brown above, on sides and
 lower mandible fleshy-brown. Tarsi flesh-color
 feet and claws light purplish-brown.

Nov. 10th 1885. Fort Verde, Arizona
 near Flagstaff, Arizona.

No. 276. *Antilocapra americana*. ♂ ad. L. from tip of
 to center pupil, 210. to base of horn 200 to ear 250
 to ~~meatus~~ to occiput 245 to between horns 220
 to ~~horn tip~~ to angle of mouth 97 to tip of
 ear 470. Horns height 177 width at base 127
 length of hand til 56 ears height above crown 195
~~above meatus~~ above notch 170 width 80
 Head width ^{measured} between horns ~~was~~ 445 Neck width
 measured behind ears 420 Nasal orifice, 130
 Orbital opening 37. Between horns 50
 Between ^{near} eyes 123. Flagstaff, Arizona. Nov. 4, 1885.

4269. *Spizella breweri*. ♂ ad. Irides, hazel; Bill;
 purplish-black, with a little orange on bridge of
 nostrils, superior to nostrils. Legs & feet
 uniform bright orange. The large middle
 claw is dark brown, the lateral and that of

under the mixed hair colorant ...
I presented the specimen when stuffed, he
warning sent it to me with the statement that
it was the only one he ever saw.

510; 820; 255; 112; cul., 65; gape, 71;
greatest width, 30. width at interspace (just
below nostrils), 16.5. Bas. tibia 15. Tarsus, 37;
mtc, 52; mt., 43; cl., 10. This bird is just
assuming the fully adult dress. The under-
parts are distinct from the lower part of
breast to the anus. The throat, neck sides and
under part of breast are pure white, spotted
with brown, when a black, the spots being
very close anteriorly, decreasing behind to the
part of breast which is broadly unmaculated. The
head and neck are spotted, green, gray, black
and white. White band of breast cut off above by a band of
green.

No. 277

Parus macrotis. ♂ ad. Head and neck
skin and skull - tip of nose to ear
165; to centre of pupil 183; base of horn 212
to midway between horns 245; to occiput, 315; to
ear 255; to tip of ear 515; to angle of mouth 92
Nasal orifice length, 21. Orbital opening 34
Eye height above crown 220 above notch 200
width, 125. Girth of head between ears and
570. Girth of neck behind ears.

Distance between eyes 110 - between horns 65

No. 278

Procyon macrotis. ♂ ad. Skin of head & skull
Tip of nose to eye, 170; to centre of pupil, 190; base
of horn, 245; to midway between horns 282; to
occiput 320; to ear, 250; to tip of ear, 530; to
angle of mouth, 100. Nasal orifice, length, 21.
Orbital opening, 30. Ear height above skull, 240
above notch, 200; greatest width, 120. Girth of
head between horns 1495. Girth Distance between
horns, 95. Distance between eyes, 115.

4270

Buteo swainsoni ♂ juv. ...
of Copper Canyon, Arizona. Mr. James & I shot and
skinned this bird. I made the skin over
and poisoned it. Length —. Alar expanse —.
Wing, 130; tail, 73; cul., 15; mouth, 9.4;
gape, 16.5; tarsus 32; mtc 39; mt., 27; cl., 14.

November 11th 1885. St. Verde, A. S.

4271

Geothlypis trichas ♂ ad.
173; 286; 94; 77; cul., 15; mouth, 9; gape, 21;
tarsus, 29; mtc, 21.5; mt., 15; cl., 5. Bill
black, brownish black, except the basal half of mandible.
Tarsi and under side of feet brownish black. Dorsum of feet brownish; claws, dusky brown.
Shot beside the Verde River near the Post.

4272

Geothlypis trichas ♂ ad. 130; 205; 75; 65;
cul., 9.3; mouth, 7; gape, 10; tarsus, 18; mtc, 16;
mt., 10.5; claw, 5. Irides dark hazel, Bill, black
with a whitish band
very near commissure. Tarsi, feet + claws
blackish gray. Shot on the Verde River near the Post.

4273

Parus montanus ♀ ad. 132; 211; 75; 63;
cul., 11; mouth, 8.2; gape, 13; tarsus, 18; mtc, 14;
mt., 7.5; claw, 5. Irides, dark hazel. Bill
dark black, legs + feet + claws dark, plumbeous.

4274

Parus montanus ♂ ad. 140; 218; 75; 65;
cul., 11; mouth, 8.3; gape, 13; tarsus, 18.7; mtc, 18.5;
mt., 10.2; claw, 5.5. Colors same as above.

4275

Parus montanus ♀ ad. 136; 208; 69; 67;
Bill broken. tars. 18; mtc 15; mt., 10.5; cl. 5.
Colors the same as above. These were the first Moun-
tain Chickadees I ever saw in the Verde Valley.
Last fall I saw them at Mud Tanks (I think) early
in October, but never nearer than there. Their
notes and habits are very like those of the *Parus
stricklandi*.

Procyon hernandezii has a very bright eye, having
a depression of the iris, in acute work.

November

3rd - 5th Ft. Verde, Ariz.

279. *Neotoma floridana mexicana* ♀ ad.
335 Total length. Tip of nose to eye 25.5 centre of orbit 28
cul, 42; nostril, 42; tarsus, 69; wing 53
and hind foot, 255. Ears above skull 26
above nostril 30 width 25. Cul behind ear 152
to end hairs, 157. Between eyes 15 cul behind 123
tarsus 18 toes 35. Fore leg 48 Hind leg 51
Fore claw 3 Hind claw 4 Longest webbing 75
Washed out at base of cul. It would
have filled at ear.

276. *Regulus calendula* ♂ ad. Ruby-crown
179; 186; 62; 49; cul. 10.5; nostril, 6.5; gape, 13;
tarsus, 20; wing, 14; cl., 4.5.

277. *Telmatactes palustris calidicola* ♂ ad. Shot
a little "Pinega" near the Verde River, where willows
& cat-tails formed a dense growth around a pool
136; 174; 54; 54; cul., 15; nostril, 10; gape, 18; tarsus,
17; wing, 17; cl., 5; hind claw, 8.

278. *Lophortyx wellbeckeri* ♂ ad. 133; 205; 65; 65; cul., 11.5;
nostril, 7; gape, 11; tarsus, 17.5; wing, 16; cl., 5.

279. *Carthorbicus crissalis* ♀ ad.
312; 320; 102; 149; cul., 41; nostril, 32; gape, 43;
tarsus, 33; wing, 31.5; mt., 23; claw, 9. Irides,
pale straw-color. Bill uniformly blue-black.
Legs feet and claws, plumbeous-black.

280. *Melospiza fasciata montana* ♀ ad. 163; 214; 68;
75; cul., 11; gape, 12.6; tarsus 20.5; wing, 21; mt., 15;
cl., 6. Irides, hazel. Bill, dusky, brownish above, with
basal 2/3 of mandible flesh-color. Legs feet and
claws, brown. This is typical of var. *callax*.

281. *Carthorbicus frontalis* ♂ ad. 164; 257; 80; 69;
cul., 11; gape, 12; tarsus 19; wing 21.5; mt. 16; cl. 5.

282. *Colaptes auratus mexicanus* ♀ ad. 345; 560;
178; 130; cul., 42; gape, 45; wing, 34; cl., 12
Tarsus 30. Flew through a pane of glass into
the new school-house.

4283. *h. shufeldti* ♀ 34; 240; 75; 70
cul., 12; gape, 15; tarsus, 22; wing 22; cl., 6
4284. *h. shufeldti* ♀ ad. 158; 238; 80; 75;
cul., 11; gape, 12; tarsus, 20; wing, 19; cl., 6.
4285. *h. shufeldti* ♂ 162; 245; 80; 77;
cul., 11.4; gape, 12.4; tarsus, 20; wing 20; cl., 6.
4286. *h. shufeldti* ♀ ad. 160; 239; 78; 72;
cul., 11; gape, 12; tarsus, 20.5; wing, 20; cl., 6.
4287. *Lophortyx gambeli* ♀ ad. 270; 415; 104; wing,
10.5; nostril, 7; gape, 14; tarsus, 32; wing 35; cl., 5.

November 15th 1915. Ft. Verde, Ariz.

Capt. Baldwin and I rode in the bunch
to San. Robinson's rancho, west of Spring
Massena Quails (*Cyrtonyx montezumae*) were
the especial object of the trip; but a terrible
hunt over the rocky hills and cañons failed
to show us a single bird of that species, although
we easily secured 25 Gambel's Quails, of which
a number were killed in five shots.

4288. *Pipilo erythronus rufirostris* ♀ ad. 197; 342; 112; 72;
cul., 20.5; gape, 22; from nostril, 16; width at base 14;
width at base, 15; tarsus, 22; 25; wing, 18; cl., 7.

Shot on the top of a tall oak-moss-tree. It fell
into a black walnut, where it uttered its loud
fall-note until captured, when it bit fiercely.
Its bill & mouth stung at some distance.

4289. *Pipilo erythronus harrisi* ♀
160; 205; 64; 71; cul., 13; gape, 13; tarsus 20; wing 20; cl., 5.

4290. *Lophortyx gambeli* ♂ ad. Skin sent to Mr. S. A. Ballou
4291. *Thryothorus brunnei rostris* ♀ ad. Peck's Lake, Upper
Verde, Ariz. Nov. 18th. 447; 195; 60; 67; cul., 16;
nostril, 10; gape, 14; tarsus, 18.5; wing, 17; claw, 5.

4292. *Sialia fusca mesoleuca* ♂ ad.
217; 300; 94; 108; cul., 15.5; gape 17; tarsus, 2.5;
wing, 27; cl., 8.5.

4293 *Hylocichla unalaschae* ♀ juv.
172; 269; 88; 70; cul., 14; nostr., 8.7; gape, 31;
tars., 29; mte., 22; claw, 5.6.

4294 *Picus scalaris* ♂ ad.
192; 345; 109; 71; cul., 23; gape, 25.5; tars., 19;
mte., 30; cl., 8.

November 19th, 1985 - Cherry Creek, A.Y.

Spent the day at Cherry Creek, 15 miles northwest of Fort Verde, locating placer claims.

4295. *Hesperiphona vespertina*. ♂ ad. 202; 350; 116; 70;
Culmen, 21; gape, 22; nostr. 16.5; width at base, 14.5
height at base, 15 Tarsus, 20.5 mte 26 mt 18.2 cl. 8.

Irides, hazel. Bill, yellow-green. Tarsi brownish flesh-color. Feet, flesh-brown; claws dusky-brown. The middle toe elongated; lateral toe nearly even, but the outer slightly longer, just reaching the base of middle claw, the inner falling short of the base of middle claw. Stomach filled with the seeds of pine.

4296 *Hesperiphona vespertina* ♀ ad. 202; 348; 115; 72
cul., 19.5; gape, 21; nostr., 15.5; width at base, 14; height at base, 15
Tarsus, 21.5; mte, 26; mt., 19; cl., 7. Irides hazel.
Colors of soft parts, in fact, like the above adult male. There is little or no variation in any of the three following specimens in respect to the coloration of the soft parts.

4297. *Hesperiphona vespertina* ♀ ad. 201; 343; 112; 72;
cul. 21.5; gape, 23; nostr., 15.2; width at base, 15; height at base, 15.5. Tarsus, 21 mte, 25; mt., 18.6; cl., 7 Hind cl., 7.

4298 *Hesperiphona vespertina* ♀ ad 195; 342; 113; 68;
cul., 20; gape, 21.5; nostr., 15.5; width at base, 14.5; height at base, 15
Tarsus, 20 mte 24 mt 17 cl, 7 Hind cl., 7.3

4299. *Hesperiphona vespertina* ♀ ad 195; 339; 112; 68; cul-
men, 21; gape, 21.5; nostr., 16; width at base 14.5 height at base, 15
Tarsus, 21 mte, 25; cl., 8 Hind cl., 8.5. mt, 17.

4300. *Dialia arctica* ♂ ad 193; 361; 123; 79; cul., 15;
nostr., 11; gape, 22; tarsus, 22.5; mte, 22; mt., 16;
cl., 7 Hind cl., 7.5.

4301. *Hylocichla unalaschae* ♂ ad
180; 285; 92; 75; cul., 14.5; nostr., 8.6 gape,
20; tars., 30 mte 22 cl. 7.

4302. *Apelocoma woodhousei* ♂ ad 300; 415; 129; 140
cul., 27; gape, 32; tars., 41; mte 31; cl, 9.

No. 280 *Tamias asiaticus dorsalis*. ♀ ad. Total length, 270.
Head and body, . . . Tail to end vert., 104; hairs, 138.
Tip of nose to eye, 17; centre pupil, 20; ear, 30;
meatus, 31; tip of ear, 49; occiput, 40; end of
outstretched hind leg, 203. Ears above crown, 17; above
notch, 21; greatest width, 12 Distance between
eyes, 13.5. Chest girth, 85 Breadth of bill 47.
Wings, 19. Tail, 34. Horiz leg, 43. Hind leg, 61.
Notes on Birds seen -

Mimus migratorius propinqua. - A few along Cherry.
Hylocichla unalaschae. - Several Dwarf Thrushes
were seen along Cherry Creek, and they were
quite numerous in the lower part where the
stream cañons, and are overgrown with brushwood
There note is a loud "chuck" suggestive of the
Blackbirds, loudest when flying overhead.

Hesperiphona vespertina. - They were first
seen in some bare maples in a little clearing,
where I fired upon a flock of 30 killing two
females. They sang a beautiful little song and
uttered their thrilling call-note. Then they flew
to the evergreen oaks where I had much
difficulty in discerning them amid the dense
foliage. Three more specimens were obtained
before the flock divided up and scattered
among the trees where I was unable to find them.
Cyanocitta stelleri macrolopha. - Two seen
in the evergreen oaks.

Falco peregrinus naevius. One seen on
Cherry Creek - in blue plumage.
Cystoloxys montezumae. - Yank Smith killed
a male from a large flock yesterday.
Parus montanus. - One small flock.
Fitta nuceolata. Several seen.

November 21st 1885. Fort Verde, A.T.

Paid a professional visit four miles up Beaver Creek, and procured a Grebe there.

- 4303. *Podilymbus podiceps*
Length to end claws, 488; 380; 628; 142; tail tuft, 38.
Culmen, 23; gape, 36; bare tibia 10; tarsus, 44; mte, 63
mt., 54; cc., 8; cl. width, 8.

November 23rd 1885. Fort Verde, A.T.

- 4304. *Sturnella neglecta* ♂ ad. 266; 418; 126; 85;
Culmen, 35; gape, 38; tars., 37; mte 35; cl. 8.5.
- 4305. *Sturnella neglecta* ♂ ad. 275; 440; 137; 92
Cul., 34; gape, 38; tars. 40; mte 35; cl. 8.5.
- 4306. *Eremophila alpestris* ~~atrysalis~~ ^{arumicola (file Dought)} ♀ ad.
175; 320; 102; 73; cul. 13; noot. 9; gape 16;
tars 21 mte 18 cl. 6; h. cl. 11.
- 4307. *Ruphispyza belli nevadensis* ♂ ad. 165; 253;
80; 78; cul., 11; gape, 11.5; tars., 22; mte, 20 cl. 5.5

November 25th 1885. Ft. Verde, A.T.

- 4308. *Sturnella neglecta* ♂ ad. 265; 420; 132; 91;
cul., 36; gape, 39; tarsus, 40; mte, 35; cl., 8.5;
mt., 27; hind cl., 13.5. Irides, hazel. Bill with
Culmen brown, shading to horn color on edges and
dusky on ridge of culmen as well as at groups
of under mandible; residual of mandible plumbeous
horn-color, becoming somewhat plumbeous
towards tip. Legs and feet uniformly flesh-
color with a strong tinge of plumbeous. Claws,
dusky plumbeous.
- 4309. *Barborchonotus crissalis* ♀ ad. 297; 307; 99; 143
cul., 36; nostril, 29; gape, 41; tarsus, 32; mte, 29;
mt., 22; cl., 7. Bill pale reddish-brown.
Bill uniformly blue-black. Tarsi dusky plumbeous.
Feet plumbeous black above, flesh-color below.
Claws, blue-black.
- 4310. *Zonotrichia intermedia* ♂ ad. 176; 255; 84; 78;
cul., 12; gape, 12.5; tarsus, 22; mte, 23; cl., 7. Irides

hazel. Bill yellow, with a reddish tinge above, with black. Tarsi light brown. Feet as above dark brown.

- 4311. *Zonotrichia intermedia* ♂ ad. 179; 256; 84; 81;
Cul., 11.5; gape, 12.5; tars., 23; mte, 23 cl., 6.5.
Colors same as above. Hind cl., 8.
- 4312. *Zonotrichia intermedia* ♂ ad. 175; 252; 82; 79
Cul., 12.5; gape, 13; tars., 23; mte, 22.5; cl., 7.
Colors of soft parts the same as above.

November 27th 1885. Fort Verde, A.T.

- No. 281. *Lynx rufus maculatus* ♀ juv. Shot in Copper Mine
Total length, 680; Head and body Tail from
root to end vertebrae, 138; to end hairs, 165. Ears, height
above crown, 69; above notch, 73 width, 68.
From tip of nose to eye, 34; centre pupil, 44 Ear, 90
meatus, tip of ear 160, occiput, 120; end of
subcylindrical hind ear, 865. Chest girth, 275; belly girth,
90 Distance between eyes, 24 Longest whisker
64; Ear tufts, 15.

(Additional measurements at bottom of page 59) Chest girth 950

- No. 282. *Canis macrotis* ♂ ad. Total length, 1750
Head and body, 1485 Tail to end vertebrae, 175; to
end hairs, 265. Ears, height above crown, 69; above
notch, 73; greatest width, 68. From tip of nose to eye,
175; to centre pupil, 195; ear, 285; tip of ear,
540; occiput, 350. Distance between eyes, 24
Distance between horns, 65 From tip of nose to horns, 250
Fore leg from olecranon to end of hoof, 640. From knee
joint to end of hoof, 345. Hind leg from great trochanter
at femur to end of hoof, 955; from knee joint to end of hoof,
480; from femoro-tibial joint to end of hoof, 750.
Neck girth behind (in front of shoulders ^{at chest}), 640; measured
behind ears, 490. Weight increased and hung up for
several days, 128 lbs. alive. General color of entire
wool, nearly uniform grizzled plumbeous-grey,
the individual hairs are pale at base then ashy-grey,
subterminally annulated with white, the hooves are
grey-black, Below the color is fuliginous-black.

darkest in the median line, becoming more grayish well up on the flanks where it becomes grayish. Inner side of legs whitish, the color gradually fading to the color of the limbs outside, which are brownish yellow. Outer side of fore legs down to knee, and of hind leg to tibio-tarsal (hock?) joint, like the back, but with a slight admixture of reddish or yellowish brown. See the description as originally written.

Note: - A young buck with a single fork of horns is indistinguishable from the above in color, save that the blackest area enclosed in the region enclosed with the ears, eyes & horns, is less grizzled with grayish-white. The head and neck lack the fulness of the old stag being shaped like the doe.

November 28th, 1885. Ft. Verde, Ariz.

To-day rode 3 miles down the valley to visit a mountaintop, and carried my little gun. Along the edges of the level grassy bottom ^{terraces} are ^{with} mesquite in which the Road-runners delight to travel in quest of game, such as lizards and snakes. To-day it was my good fortune to catch one outside of the brushwood, and give chase upon the open plain. I was well mounted upon a well-trained cow horse who knew well how to avoid the thorny branches of mesquite and the gophers' burrows, and quick as thought to turn and follow the doublings and turns of this athletic bird. At first the Road-runner ran partly flying in a straight course across the level grassland always heading for some cover however distant or scanty. I rode at a moderate gallop not wishing to frighten the bird into flight. They are capable of sustaining a prolonged flight at first, but, when fatigued they seldom try to rise from the ground although raising their wings to assist in their closely pursued

driving forward now at a good gallop. I usually rode upon the fluttering bird, but as it refused to allow me to catch it without dismounting, and it took advantage of a moment's deliberation to escape beneath a cactus and run out on the opposite side to a considerable distance before I noticed that it had left the bush. The mesquites were now quite thin and scattered, and the bird would always seek to hide behind a bush, and would take the back trail if this suited its movement. On one or two chase among the bushes now ensued, and several times I rode over the grass before it gave up trying to escape and hid beneath a bush where I shot it, being unable to reach it and capture it alive on account of the thorns. This makes the third time I have hunted the Road-runner mounted, and always caught with the greatest ease, but failed to capture the others on account of their running habit of riding under mesquite and being overtaken. Lizards, as well as Road-runners, are often taken by the ^{mounted vaqueros} ~~vaqueros~~ buckaroos mounted. A Road-runner was brought to me alive by one who caught it in this way.

No. 281. *Speotyto cunicularia* ♀ ad.
590; 550; 184; 300; cul., 54; nostr., 34; gape, 64; tarsus, 63; mt., 35; toe, 48; cl., 12. Found killed in an entire Killark (*Arcturus ludovicinus*) and a large scorpion. The bird (i.e. the Road-runner) was loaded down with fat - the fattest bird I ever saw.

No. 282. *Canis macrotis* ♂ ad. (For other dimensions see p. 57.)
Fore-foot: Knee-joint to wrist, 225. Hoof along anterior edge, 44; upper edge (chord) 48; lower edge (chord) 83. Hoof to base of upper hoof, 125; length of hoof ^{upper edge} 95 with at base 24. Hind-foot length of shin, Hoof ant. edge 55; upper edge 48; lower edge 180. Hoof to base upper hoof, 127. Length u. hoof with at base, 22. With each wing hoof, 22. Length of hand 112

No. 283 *Canis macrotis* ♀ ad. From tip of nose to eye, 175; to center of pupil, 190; to ear, 260; to tip of ear, 505; to occiput, 310. Distance between eyes, 110. Width of muzzle from edges of nostrils, 23; height of muzzle, 33. Tip of nose to angle of mouth, 90. Girth of head between ears and ears, 435. Ears, height above crown, 250; from notch, 190; greatest width, 120. Between ears, 75. Total length 1620. Tail to end vertebrae, 175; to end hairs, 275. Hind leg, from great trochanter to end hoof 880; from tibio-tarsal joint, 450; from knee-joint, 715. Fore leg from olecranon, 595; from knee-joint, 320. Neck girth near chest, 450; neck girth behind ears, 310. Other measurements on page 63.

No. 284 *Canis macrotis* ♀ ad. From tip of nose to eye, 175; to center of pupil, 190; to ear, 260; to tip of ear, 500; to occiput, 310. Distance between eyes, 108. Width of muzzle from edges of nostril, 23; height of muzzle, 30. Tip of nose to angle of mouth, 85. Girth of head between eyes and ears, 400. Ears, height above crown, 213 above notch, 143; greatest width, 130. Distance between ears, 70. Other measurements, p. 63.

No. 285 *Canis macrotis* ♂ juv. Horns with a single fork. From the swelling at base of horns, measured along curve, to fork, 165; the forks of both horns are about equal, measuring about 135; from tip of nose to eye 180; to center of pupil 195; to tip of ear, 535; to occiput 310; to base of horn, 245; to angle of mouth, 113; height of nasal pad, 30; width of nasal pad (from edges of nostrils) 27; distance between horns, 62; between eyes, 110; girth of head behind horns, 455; ears height above crown, 240; above notch, 210; greatest width 140. Hind leg. Foot along anterior edge, 49. Upper chord, 44; lower edge chord 72; width of each hoof, 22. From tip of hoof to base of upper hoof, 127. Length of hoof measured along posterior edge chord, 29. Width of hoof, 22. Length of gland hind leg, 135.

No. 286 *Canis macrotis* ♀ juv. This animal killed in a trap, and was trapped in a stall trap, and later in a log trap. It dragged the log the distance and then panted with the legs extended, and was shot. Total length, 1840; head and body, 1130. Tail to end vertebrae, 175; to end hairs, 275. Ears, height above crown, 87; above notch, 93; greatest breadth, 75; from tip of nose to eye, 70; to center of pupil, 80; to ear, 155; to meatus, 145; to tip of ear, 258; occiput, 195; to end outstretched fore foot 1670; distance between eyes, 55; chest girth 570; belly girth, 630; loin girth, measured immediately in front of thigh, 510; girth of head in front of ear, 390; neck girth at narrowest point, 290; longest whiskers, 98; top of nose to angle of mouth, 88; shoulder girth, 370; girth above elbow, 225; girth of forearm below elbow, 200; girth at wrist, 135; girth of forepaw, 180; girth of thigh 470; below knee joint, 300; above heel, 140; tarsus, 140; girth of hind paw, 170; length of forelimb from coracoid process of scapular, 530; from olecranon to end of toes, 380; from wrist joint to end of toes 460; breadth of forepaw, 110; length of claws, 1st (inner) 32x19; 2nd, 29x16; 3rd, 27x15; 4th, 23x13; 5th, 24x13; Hind limb (length of) from great trochanter 665; from knee joint to end of toes, 455; from heel to end of toes, 365; breadth of hind foot, 65; hind claws, 1st (inner) 20x13; 2nd, 20x13.5; 3rd, 22x13.5; 4th, 20x11; length of upper canine, 25; of lower canine, 25.5; distance between outstretched forepaws 1165; distance between outstretched hind legs, 1210; weight, 67 1/2 pounds. The chin, throat and neck as far as the forepart of the chest, the axillae, inner side of thighs and band running down the entire under surface, white; the hairs being light plumbeous at base, except on the chin & throat where they are white throughout; the white blending with the

color of the dorsum upon the flanks and inner side of legs. A few obscure spots of dusky plumbeous upon the chest & axillae, ~~but~~ but hardly distinguishable. There are likewise, several similar & oblique bands along the sides and inner side of forearm. The latter having a slight yellowish tinge but nearly white. The foot pads, of which there are several on the fore and five on the hind feet, are black as are the nasal pads & eyelids. The claws are white. The ~~the~~ hairs of the under surface of the forefoot are gray, annulated with black and plumbeous. Those surrounding the pads are black, the under surface of the hind foot fuliginous gray interspersed with white hairs. The area around the pads, blackish. Under surface of the tail is whitish, the hairs being plumbeous broadly pointed with white. The upper lips are pure white in front, bounded above by the nasal pad and laterally by two black spots, from which the whiskers are inserted, the latter are black above & ^{white} ~~in front~~ ^{white} ~~in front~~ ^{white} ~~in front~~ pure white. The cheeks, up to the eyelids and area above the eye, are grayish white. The eyelashes are black, as also a dusky area, extending to the supra-orbital process of the frontal bone, from which the eyelashes are inserted. The area between the eyes & nasal pad is mouse color, the latter being narrowly edged with whitish. The individual hairs are annulated with black, white, & reddish brown. The inner side of the ears is thickly haired & white. The dorsum is gray at base & around edged. This color surrounding an area of sooty black, containing a central bar of paler sooty plumbeous. The forehead is like the back with a greater admixture of gray, giving it a lighter appearance. The hairs of

the dorsum are mixed reddish brown & yellowish gray, more or less annulated with black. The reddish and black in large amount in the middle line forming an indistinct line from the forehead to the tip of the tail, which darkens terminally above until it ends in a jet black tip, the succeeding hairs being successively more and more tipped red. The general tawny reddish brown hue of the dorsum fades through ash gray to the white of the ventral surface.

No. 283. Measurements of hoofs (continued from p. 60). Fore foot. - Anterior, 45; superior 41; inferior edge, 70. From tip hoof to base of lesser toe, 101; Length of upper (lesser) hoof, external edge, 25; its width at base, 27. Width of each greater hoof, 23. Hind foot. - Anterior, 45; superior, 37; inferior 65 edge (chord in each case - measured with dividers), width of great hoof 20. From tip of great hoof to base of lesser hoof, 115. Length of lesser hoof measured along posterior edge, 22; width at base, 21.

No. 284. Measurements of hoofs (continued from p. 60). Fore foot. - Anterior, 47; superior, 40; inferior, 71; width, 22. From tip to base little hoof, 109; height of little hoof along anterior edge (chord), 29; width at base, 20. Hind foot. - Anterior, 45; superior, 39; inferior, 64; width, 22. From tip great hoof to base little hoof, 120. Height little hoof posterior edge, chord, 20; its width at base, 20. December 2nd 1885. Ft. Verde, A.T.

4314. *Totanus melanoleucus* ♀ ad. Length total 436; 350; 600; 190; 80; cul., 5-6; gape, 64; from head of tibia to end of middle claw, 175; bare portion of tibia, 38; whole tibia, 80; tibia, 59; date, 4/1; mt., 36; el. 5-5. Shot on Verde River. Several Greater Yellow-legs have been shot along the Verde during the past few days.

December 4th 1885. Ft. Verde, Ariz.

For several days past, I have ridden through a rocky canon after dusk, and have each time started Red-shafted Flickers. In their roosting-places in holes in the limestone walls of the canon. In certain places where there is little or no timber, I have found this species abundant, spending much time upon large granite boulders and upon the ground.

December 5th 1885

4315

Circus hudsonicus. ♂ ad. in blue plumage.

480; 1110; 360; 233; cul. + cere, 28; cere, 14; cul., 18; gape, 33; tars., 39; mte., 47.5; ~~mtc.~~ 33; claw, 16. Iris bright yellow, cere greenish. Bill, plumbeous black, bluish laterally at base, with an orange spot on ramus of mandible. Tarsi + feet orange yellow, claws, blue black. Stomach contained Thomomys.

Note. - Cariacus macrotis (Nos. 283 + 284 ♀♀ ad.) were noted as much paler in color and ^{with} more yellowish suffusion throughout, especially around axillae and upon outer side of legs.

A half-grown Jamm has the white of throat and inner sides of legs nearly pure and unmixed. The colors are otherwise nearly identical but perhaps somewhat lighter than the old does.

December 7th 1885. Ft. Verde, Arizona.

Tamias harrisi. - This Chipmunk must be parivorous as the Spermophile is known well to be, for I found one dead near a mountain lion's carcass which I poisoned with strychnine, it having eaten the flesh.

Neotoma floridana mexicana. - One sits regularly upon the stump of a willow six feet above it, brush-pile when feeding early in the morning.

Buteo borealis calurus. An immature bird perches on the wall of an Aztec ruin on a conical butte opposite the Post across the Verde River, and when

not hunting can be seen there at any time. I rode my horse up the steep butte to the top and stopped within a few feet of the Hawk. After carefully surveying me for a few moments it slowly opened its wings & sailed off.

Another Red-tail's favorite roost is upon a cottonwood at the crossing beside which wagons constantly pass. It seldom takes alarm at them but surveys them critically from its perch as they pass beneath.

4316. Colaptes auratus mexicanus. ♀ ad. 332; 533; 164; 123; cul., 41; gape, 44; tarsus, 30; mte., 35; mt., 21.5; cl., 13.

December 8th 1885. Fort Verde, Arizona

No. 287. Tamias harrisi. ♂ ad. Total length, 243; head and body, 116; tail, from root to end vert., 73; to end hairs, 96; width, 46. Ears, height above crown, 8; above notch, 12; width, 11. From tip of nose to eye, 18.5; to centre of pupil, 22; to ear, 33; to meatus, 34; to tip of ear, 45; to occiput, 44; to end of outstretched hind foot, 233. Chest girth, 90. Distance between ears, 14. Manus, 25. Pes, 39. Fore leg, 50; hind leg, 67. Fore cl., 7; hind cl., 6.

Note on No. 286 (Felis concolor, Mountain Lion). This magnificent Lion killed a 2-year-old salt wagoning not less than 500 lbs. and from that to 700 lbs. It sprang upon its neck fixing its claws in front of the scapulae. The lion's weight (132 lbs.) was so great that the horse only made about three jumps before it fell and was killed. Mr. Markson, came upon the warm carcass of the horse and immediately poisoned it, and found the lion dead the next morning. Within a few miles of this place one ranchman lost eleven and a half dozen colts during the past year that were killed by lions. On the same day that this lion was taken Walter Arnold's Indian girl "Julia" when riding upon the range noticed strange actions among a herd (over to page 67)

Measurements of Mallard Ducks Shot on
Stoneman's Lake, Navajo Co., N. M.

4317 Anas boscas ♂ ad. December 6th 1885
610: 965: 290: 108: cul. from frontal feathers, 58;
from extreme base, 67: from nostril, 45: gape, 69;
width at base 22: height at base, 24: from tip
of bill to center of pupil, 92: to occiput, 123;
bare tibia, 15: tars., 44: mte., 63: Mt., 56: cl., 10:
claw of hallux, 6. Weight, 2 lbs., 10 oz.

4318 Anas boscas ♂ ad. December 6th 1885
630: 975: 286: 115: cul. from frontal feathers, 61;
from extreme base, 70: from nostril, 46: gape, 68;
width at base, 21: height at base, 24: from tip of
bill to center of pupil, 93: bare tibia, 15: to occiput
from tip of bill, 129: tars., 46: mte., 64: Mt., 55: cl., 9:
claw of hallux, 6. Weight 2 lbs., 9 oz., Avoir.

4319 Anas boscas ♀ ad. December 6th 1885
575: 930: 280: 113: cul. from frontal feathers, 54:
from extreme base 63: from nostril, 41: gape, 63;
width at base, 21: height at base, 24: from tip of
bill to center of pupil, 85: to occiput, 117: bare
tibia, 16: tars., 45: mte., 60: Mt., 52: cl., 10: claw, 6.

4320* Anas boscas ♀ ad. December 6th 1885
575: 935: 280: 115: cul. from frontal feathers, 54:
from extreme base, 63: width at base, 20: height at base, 22:
from tip of bill to center of pupil, 85: ~~to occiput~~ 120:
bare tibia, 16: tars., 45: mte., 59: Mt. 51: claw, 9:
claw of hallux, 6. Weight 2 lbs., 5 oz., Avoir.

December 9th 1885. Cherry Creek.

4321* Caracus macrotis. ♂ ad (a Cactus buck).
Tip of nose to angle of mouth, 95: to eye, 190: to
center of pupil, 205: to ear, 275: ~~to tip of~~ to tip of
ear, 345: to occiput, 325: ear, above crown, 225:
above notch, 203: girth of pedicle of ear below notch, 120:
neck girth, 350: girth of head between horns + ears, 470: distance
between eyes, 125: from edge of orbit to gland 13: length of hand
24: from tip of nose to base of horn, 255: length of horn meas-
ured along curve 270: in straight line, 250: distance
between horns, 70: nasal pad, distance between
nostrils, 26: height 40: width of ears, 120:
The large Cactus buck has long been known as a ^{resident of the}
Locusts, below the settlement on Cherry Creek, and has
been unsuccessfully hunted for years. He was shot
through the upper part of the leg and the bone shattered.
See Mr. ^{who was hunting for a deer}
with dogs. The dogs caught up with him and dragged
him down a number of times, but he struggled furiously
and at length baffled them. The hunter followed on
foot and surprised the desperate quarry in a brushy
oak, behind some rocks. The deer sprang at him
but the dogs dragged him down before he could injure
the man, who was completely taken by surprise.
It was in rather poor condition and showed evidence
of great age. He had no testicles. I should have liked
to preserve the entire skin but it was much bedragged
and mutilated, so I preserved only the head, ^{skin of} and ^{antlers} ~~antlers~~
so pressed with business that I had not even
time to measure it, but think that it would
measure much more than any Deer I ever saw.
Its limbs and feet were especially large.

(Continued from page 65.)

I saw and, upon riding to the spot, found a large
Deer freshly killed, with evidence of a severe struggle.
The deer was barely dead, being still warm and ~~fresh~~
showing that the Lion sometimes hunts by day. The Lion
could not be found. The girl returned to the ranch and
a party went back with her, prepared to shoot or poison
the Lion, but found the Deer gone when they reached
the spot, although the place was distinctly marked
with blood and tracks. An attempt was made to
follow his tracks. He had dragged the deer over
brush six feet high and at intervals made enormous
leaps to clear obstructions. After tracking him several
hundred yards the country became so rocky that
it was impossible to find any tracks, and search

4321
4322

on page 400

was made, but the deer arrived at the ground. The lion is well-known to cover up his carcasses with his own with branches, brush, leaves and stones. Such was the case with No. 286. which Mr. Sadis found caught in a trap, and set beside the carcass of the dead deer, which he found "covered with fresh" deer and coats are the staple articles of diet of the lion here. They are far more destructive to colts than to calves, but kill calves and not infrequently full-grown cows when hungry.

287. *Felis concolor* Bod. Weight 132 lbs. Total length, 2030; Head and body, from nose to tubercle of Os humeri, 1200; tail to end of vertebrae, 734; to end of hairs, 790; Ears, height above crown, 95; above notch No. 1; greatest breadth, 80. From tip of nose to eye, 90; to centre of pupil 105; to ear, 190; to meatus 218; to tip of ear, 288; to occiput, 260; end of outstretched hind foot, 1890. Distance between eyes, 60. Least girth, 790; pelvic girth, 820; loin girth, measured at narrowest part immediately in front of hips, 670. Girth ^{at neck} in front of ears, 525; neck girth at narrowest point, 420. Longest whiskers, 100. Tip of nose to angle of mouth, 100. Shoulder girth, 490; girth above elbow, 295; girth of forearm below elbow 275; girth at wrist, 180; girth of fore paw, 210; girth of thigh, 560; below knee-joint 315; above heel, 180; tarsus, 165; girth of hind paw, 180; length of fore leg from coracoid process of scapula to end of toes, 1580; from olecranon to end of toes, 395; from wrist-joint to end of toes, 180; breadth of fore limb, 110. Length of claws: 1st (inner), 31 x 24; 2nd 30 x 18; 3rd 27 x 17; 4th 24 x 16; 5th 25 x 13. Hind leg from great trochanter to end of toes, 715; from knee-joint to end of toes, 455; from heel to end of toes, 285; breadth of hind foot, 75. Hind claws 1st (inner) 22 x 14; 2nd 22 x 14; 3rd 21 x 14; 4th 20 x 13.5. Length of upper canine 28. Lower canine 22. Girth of tail at base, 225; near tip 50. From median line to tip of fore paw 590; from median line to tip of hind paw, 615. Entire skin, skull, atlas, axis, os hyoides and laryngeal cartilages preserved.

Beneath white, the chin, throat and neck; belly, inner side of thigh, pure white. The uillae, inner side of the forelegs slightly tinged with fulvous. The hairs of the chest beneath are white terminally, plumbeous at base, and a series of indistinct plumbeous spots on either side of the median line. The flanks are plumbeous, some of the hairs pointed with the color of the dorsum. General color of the dorsum yellowish brown, an indistinct darker central stripe, where a few of the hairs are pointed with black. Upon the sides and flanks this color gradually fades to whitish. The tail is colored like the black above, but with the hairs plumbeous black at base and many of them annulated or pointed with black increasing in amount toward the tip, which is jet black above, a distance of about six or five (65) millimeters. The hairs of the dorsum are pale at base, with a plumbeous cast. The hind feet are plumbeous black between the pads, sooty black on the under side of the tarsi, anteriorly plumbeous black at base, tipped with the color of the dorsum. All of the claws are white. The upper lips are white, with a black spot on either side in which the whiskers are inserted. The latter are white behind, and those inserted in front jet black. The crown of the head is darker than the general color of the dorsum, this being due to the dark plumbeous bases, showing through. There is an admixture of gray hairs here. The sides of head like side of the body, with a light area in front and behind the ears and above and below the eyes. The inner side of ears are coated with long hairs and whitish. The dorsum of ears are grayish with a large sooty plumbeous basal and subterminal spot. On ear tufts, the hairs scarcely extending beyond the edge of the ear. The eyebrows are white, with dusky plumbeous bases. The lashes, edge of eyelid and broad stripe extending forward from inner canthus are blackish.

December 11th, 1885. Ft. Verde, Arizona.

Today, at one o'clock P.M. Troops "M" + "I", 10th Cavalry left the Post en route, to Fort Thomas, Arizona, equipped for the field. I rode with Capt. T. A. Baldwin, who was in command, as far as Clear Creek (5 miles) where the troops went into camp. I then rode 5 miles farther up Clear Creek Cañon to the Bears den or lair which I discovered last ~~winter~~ ^{summer}. The den is an old cliff dwelling into which some large rocks had fallen partly closing the entrance. A number of large blocks of limestone, which have fallen from the cliff above, occupy a ledge in front of this artificial cave, the former home of an extinct race of men. Among these broken rocks upon the ledge, and in the cave the ordure was very abundant. It contained fragments of acorns and wild grapes. Broken bones of Deer were abundant, and the tracks of a mountain Lion (*Felis concolor*) were seen; but the Bear has not yet returned. I do not know whether this is the winter retreat of the breeding place of the Bears; but the place appears to have long been used by them. Along Clear Creek were Hermit Thrushes (*Helminthophila walaschae*) Bridled Titmouse (*Lophophanes mollisberi*) and Long-spurred and Cañon Towhees (*Pipilo maculatus megalonyx* at *fuscus mesoleucus*). Mexican Bluebird (*Sialia mexicana* and Townsend's Solitaires (*Mniotilta townsendi*) were feeding on mistletoe berries ^{on a} ~~on a~~.

Note on a parasite infesting the nares of Deer.

In preparing the skulls of five Deer (*Cervicus macrotis*, Sats) three were found to have large grubs or worms (larvae) in the nares; but, as the heads were a week dead it was thought possible that they had developed since the animals died; but in no. 288, a live one was found emerging from the nostrils, shortly after death, showing that it is a parasite. Upon the nasal mucous membrane of this Deer

I have preserved this specimen which measured when not in motion 25 mm. in length by 10 mm. in diameter. It is not improbable that this or some other parasite is the cause of loss of testicles in the so-called "Cactus Bucks" which are not uncommon in Arizona, instead of this loss being, as is generally believed, due to the accident of the Deers lying down upon spiny cacti.

Note on Hesperomys leucopus oregonus. - This species infests my post Hospital. On Oct. 10th, 1885. I found its nest in a drawer of the Dispensary that is opened many times each day. The nest was composed of a small quantity of cotton and shred torn from muslin bandages. It was soft, nicely felted and altogether a snug little dwelling in which I found a single mouse just born, of bright pink color and destitute of hair. I have caught a number of these mice which, although not typical, should in most cases, be referred to the above variety, although some of the hairy footed short-tailed specimens might be appropriately labelled var. *sonoriensis* [arizonae].

Note. - Upon skinning the Deer's head (No. 288) mentioned in the note on opposite page, three more grubs were taken from the nares. In both ears ticks were found; no one not less than a dozen. Some of each of these parasites were taken from the ears and nares, respectively, and preserved in alcohol. Those in the ears had created an intense inflammation, the skin having peeled entirely off leaving a red, inflamed surface beneath. These parasites must be a source of intolerable suffering to the Deer, as well as rendering them an easy prey to their enemies by depriving them, in a measure at least, of both the sense of smell and hearing. The ticks had worked their way clear down into the drum of the ear.

No. 290. *Felis concolor*. Mountain Lion. ♂ ad. Shot or poisoned S.W. of Squaw Peak by Mr. Wales Arnold, who presented the desiccated head to me. Killed 1885. See description on page 74.

December 13th, 1886. Fort Verde, Arizona.

To-day Lieut. Mason and I rode up on to the mesa to see if we could see any Deer. We each took a "Govt Long Tom". Heading the first cañon to the left, after breaching the top of the mesa and riding over a high ridge and then up to the top of a round butte where we could see the surrounding country I dismounted and left Daisy with the bridle reid down, knowing that she would then stand there and await my return no matter how long absent.

I then scrambled to the rocky edge of the cañon, Lieut. Mason riding higher up upon smoother ground amongst the cedars, which here make good cover for deer. After skirting the cañon a short distance, I saw Lieut. Mason, who had just started two Does. They had bolted while he was dismounting and he did not even know in which direction they had gone, but cried: "Oh! they were two beauties - does!" I had heard their flying footsteps as they heedlessly descended the steep and rugged side of the cañon, and, running forward saw the heads of two does that were running obliquely along a shelf (ledge) below me.

Rushing to a near projecting point, I saw three does in the bottom of the cañon, that instantly began to ascend the steep, almost vertical, below, sides of the cañon. I knelt and aimed at the largest doe and struck very near it as I could see by the cloud of dust flying up from the ashy volcanic soil where the bullet struck. Another shot seemed actually to hit the creature, but again she sprang forward and upward to join her two companions, and with them ~~soon~~ disappeared over the backbone of a ridge. In the mean time I heard the sound of Deer's hoofs upon the rocks beneath where I knelt, and saw an immense buck bound across the bottom of the cañon and begin to ascend the steep slope beyond. A bullet from Lieut.

Mason's rifle stopped the a-frighted creature striking above it. I fired and barely missed its back. Then a regular fusillade commenced, the buck jumping around and apparently completely bewildered by the fear. We fired very close and once or twice thought we had hit and mortally wounded him, for he placed his fore feet on a ledge above him and dropped his magnificent head upon them, and did not move at my shot, but one from Mason started him, and he kept moving until over a ridge, but afterwards reappeared 6 or 700 yards away limping badly and appearing to be very badly disabled. I ran towards him, and reached the top of the cañon opposite in a breathless and badly demoralized condition, but the buck had disappeared and I could find no blood upon the track. A little farther on I saw Mason riding towards me. He had been firing at four other Deer (3 does + 1 buck) which he started from a side cañon when trying to ride his horse down after our wounded buck. Upon the ridge beyond I ran upon an old doe standing beneath a cedar not 50 yards away. It faced me and was looking fixedly at me, without moving. I took a quick aim and fired, but missed. The doe bounded into the air as if bucking and bounded down the slope amongst the cedars, afterwards making a loop and re-passing me within easy range had I known her course and been looking for her. She made some magnificent leaps! I could not believe that I had missed her clean at that short range until I examined the tracks and could find no blood after trailing her several hundred yards.

Had I taken my spotgun and kept one barrel loaded with buckshot I would certainly have bagged the doe, and could have killed

a number of Townsend's Solitaires (*Myadestes townsendi*) and Evening Grosbeaks (*Hesperiphona vespertina*), which were feeding upon the berries of the red cedar in considerable numbers, as were the Robins, Mountain Mockingbirds, Mexican Bluebirds and Flickers! The Mountain Mockers (*Coccyzus montanus*), were especially numerous, in large flocks, uttering a note like a Blackbird or rather like resembling the Dwarf Hermit Thrushes call note. A cedar tree filled with these birds and the others alluded to above was indeed a pleasing sight.

The day was cold and clear. No snow yet - not even on Squaw Peak, the highest mountain in this neighborhood, although San Francisco Mountain has, of course, long been entirely white as seen from this distance. It is splendid hunting weather for this region.

December 14th 1885. Ft. Verde, A.T.

4323 *Geococcyx californianus* ♂ ad. *
607; 545; 182; 300; cul., 56; nostr., 41; gape, 71;
tarsus, 62; uite, 47; cl., 12; mt., 35.5.

4324 *Lincolnus sparverius*. ♀ ad. 283; 610; 198; 142;
culmen and cere, 14; cere, 4; culmen, 12; gape, 17;
tarsus, 37; uite, 30; mt., 22; cl., 10. Stomach empty.

* Note. - The Road-runner's stomach was filled with scorpions and red beetles and contained the entire bill of a Duck () which latter I preserved.

Note - on *Felis concolor*. No. 290. This head is completely desiccated by a year's exposure to the sun. Of course then it is shrunken by the loss of its watery elements, but the measurements will be approximately accurate. They are as follows:
From tip of nose to angle of mouth, 82; to fat inner canthus of eye, 70; to centre of pupil, 84; to ear, 160.

to meatus, to 187; to tip of ear, —; to occiput, 220. Distance between eyes, 55. Sixth of head in front of ears, 430. Longest whiskers, 190. Upper canine from gums, 30. Lower canine, 24. Colors. - The upper lip, cheeks as high as the ^{lower} edge of malar, chin and throat, white. A fuliginous black patch on either side of nasal pad in which are inserted the stout whiskers; There is a bare area from the lower edge of nasal pad to edge of lip, separating the ~~hairs~~ lips on either side, which are white (as before stated), this color extending upward and in triangular form and separating the dusky lateral spots from the nasal pad. Eyelids and lashes black. A dusky area extending from inner canthus and spreading over nose in front and joining the dark whiskers patches laterally, and extending backward from the nose in the narrow dusky median stripe. The eyebrows are mostly white, but several sooty-brown at base. The longest measures 44 mm. The top of the head and neck are yellowish-brown, mixed somewhat with white hairs, the dark hairs being sooty-plumbeous at base. The ears are mutilated but the hairs of one, for an inch at base are deep brown, without any gray or plumbeous taint. There is a light area above and below the eyes and in front and behind the ears.

In general terms. The head resembles the rest of the animal in being yellowish-brown above and white beneath. The distinctive features are a dark spot on either side of the nose, in which the whiskers are inserted, a darker area around the eyes, upon the dorsum of the ears (where there is a special gray mark in most spec.), and a slightly darker area about the nose and extending backward therefrom in the median line. Light-colored areas upon the sides

of the head, with a triangular prolongation above the superciliary ridges from the white area above the eyes, and together with the long white hairs of the inner surface of the ears gives a more varied appearance to the head than any other part of the animal.

December 15th 1885. Fort Verde, A.T.

To-day went hunting in the cañons and cedar-clad buttes east of Verde. Saw two Mule Deer towards sunset. Took a 400 yards shot at the buck running, but missed. The doe ran up the sides of the cañon half a mile after stopping to look back.

We found the blood of the wounded buck that we shot a few days ago, but hunted in vain for the animal itself.

Plenty of *Myiadestes townsendi*, *Merula migratoria*, *Oroscoptes montanus* and *Colaptes mexicanus* feeding upon the cedar berries. No Evening Grosbeak, *Hesperiphona vespertina* seen. A few Plain Titmouse (*Lophanes inornatus*) and Ruby-crowned Kinglets.

4325. *Cyrtonyx massena*. ♂ ad. Presented to me by Mr. John Morris, who shot it on Clear Creek 40 miles from Ft. Verde. Length to end of claws, 320.

264; 447; 133; 72; cul., 15; nostril, 9; gape, 17; height of bill at base, 10; breadth at angle of mouth, 13; tarsus 34; mtc, 37; int., 25; cl., 13. Inner toe + cl., 27; toe alone, 17; cl., 11.5. Outer toe and cl., 30; toe alone 21; claw, 10. Hallux + cl., 15; toe alone 9.4; claw, 6. Tip of bill to centre of pupil, 25; to occiput 36. Irides, dark hazel. Bill with mandible edges of maxilla blue; the tip and edges of terminal one-third of ^{maxilla} horn-color, its dorsum and middle third of lateral edges being plumbeous-black.

Tarsi + feet, light bluish gray; claws, purplish-brown. The under surface of the wing is ashy-gray. The lining, or under wing-coverts, are obscurely

spotted with white. The pattern of the outer coloration of the secondaries is quite distinct on the inner webs (more so on the outer) of the inner four or five quills (=feathers). The nest of the bird can be well described from the skin. The white-spotted plumes grow upon the flanks. The abdomen, under tail-coverts, legs and tibial plumes are jet black. The crop was filled with seeds of mesquite and other legumes and contained one beetle. The gizzard likewise contained mesquite beans and white quartz pebbles and little black seeds in considerable quantity.

December 16th 1885. Fort Verde, A.T.

4326. *Aluco flammeus americanus*. ♀ ad. Length to end of claws, 470. 395; 360; 152; cul. and cere, 44; cere, 20; culmen, 22; bill from nostril, 18; gape, 45; tip of bill to centre of pupil, 52; to occiput, 80; tarsus, 70; mtc, 55; int., 37; cl., 21. Inner toe and claw, 55; toe alone, 34; claw, 24; outer toe and claw, 44; toe alone, 28; cl., 20. Hallux and claw, 36; hallux, 19; cl., 20. Irides very dark hazel. Cere and edges of mouth rosy flesh-color. Bill, white. Bare cuticles of feet, olivaceous. claws dusky plumbeous-oliv.

December 18th 1885. Fort Verde, A.T.

4327. *Melospiza fasciata fallax*. ♂ ad. 171; 225; 73; 80; ~~221~~ cul., 12; gape, 13.5; tars., 22; mtc., 21.5; cl., 5.5.

4328. *Xylocichla umalasciae*. ♂ ad. 175; 282; 92; 73; cul., 14; nostr., 9; gape, 21; tars., 30; mtc., 22; claw, 6.

4329. *Agelaius phoeniceus* ♀ ad (exp. imm.) 207; 338; 113; 88; cul., 18; gape, 17.5; tars., 2.5; mtc., 28; cl., 8.5. Shoulders bright red.

4330. *Agelaius phoeniceus* ♀ ad. 205; 338; 109; 83; cul., 18; gape, 17.5; tars., 2.7; mtc., 27; cl., 8.

4331. *Sturnella neglecta* ♂ ad. 262; 424; 130; 86; cul., 34; gape, 38; tars., 42; mtc., 36; claw, 8.

4332 *Lophortyx gambeli* ♂ ad. No measurements.
 4333 *Anas boschas* ♂ ad. Lin Weight 2 lbs., 80z, Ovoir.
 595:965:290:111; cul. from frontal feathers, 50;
 from extreme base, 61; from nostril, 38; gape, 63;
 width at base, 20; height at base, 21.5; from tip of
 bill to center of pupil, 83; to occiput, 115; bare
 tibia, 15; tarsus, 44; mte., 60; mt., 53; claw, 9.5;
 claw of hallux, 6.

4334 *Anas boschas* ♀ ad. 570:940:285:110; cul.,
 from frontal feathers, 55; from extreme base 64; from
 nostril, 40; gape (67); width at base, 21; height
 at base 22; from tip of bill to center of pupil, 85;
 to occiput, 118; bare tibia, 13; tars., 44; mte., 59; mt., 53; cl., 9;
 claw of hallux, 6.

4335 *Anas boschas* ♀ ad 560:920:270:97; cul.
 from frontal feathers, 54; from extreme base 62; from
 nostril, 40; gape, 63; width at base, 20; height
 at base, 24; from tip of bill to center of pupil, 83;
 to occiput, 116; bare tibia, 15; tars., 44;
 mte., 59; mt., 53; claw, 8; claw of hallux, 6.

4336 *Buteo borealis calurus*. ♀ juv.
 620: ~~1450~~:1450:445:270; cul. + cere, 40; cere, 16;
 cul., 27; gape, 46; tars., 95; mte., 71; mt., 49;
 claw, 25.

4337 *Aquila chrysaetos canadensis* ♂ ad.
 355: ~~2120~~:2120:630:
 355; cul. + cere, 56; cere, 19; cul., 42; gape, 61;
 tip of bill to center of pupil, 73; to occiput, 123;
 height of bill at base of culmen, 28.5; width
 below nostrils, 21; from head of tibia to end
 of middle claw, 375; tibia, 180; tars., 104;
 mte., 105; mt., 70; inner toe, 47; outer toe
 from end of feathers, 48; hallux from feathers, 37;
 hind claw, 51; inner claw, 45; middle claw, 35;
 outer claw, 28. Stomach filled with carrion (dead pig).

Note. I counted the plumes of a number of true old
 male Gambel's Quails (*Lophortyx gambeli*) and found
 six in each case.

December 23rd, 1885. Fort Verde, A.T.

4338 *Lophodytes cucullatus*. ♀ ad. 463; 665; 200; 110;
 cul., from frontal feathers, 40; from extreme base,
 46; gape, 53; bare tibia, 8; mte., tars., 32;
 mte., 58; mt., 51; cl., 8.

4339 *Accipiter fuscus*. ♀ ad. See our page (180) for its
 measurements. Its crop was filled with small
 birds flesh and bones, but contained no
 hair or feathers.

4340 *Myiadestes townsendi* ♂ ad. 220:356:117:105;
 cul., 12; nostr., 7; gape, 20; tars., 20.5; mte., 22.5;
 mt., 16; claw, 6.5.

4341 *Myiadestes townsendi* ♀ ad 214:350:118:103;
 cul., 13; nostr., 8; gape, 20; tars., 21.5; mte., 22.5;
 mt., 16; claw, 6.5.

4342 *Astragalinus tristis* ♀ ad. 128:226:74:51;
 cul., 11; gape, 11; tars., 14; mte., 15.5; mt., 10; claw, 5.

4343 *Cyrtonyx montezumae* ♀ ad. 222:415:123:62;
 cul., 14; nostr., 8.5; gape, 16.5; tars., 29; mte., 32;
 mt., 22; claw, 11.5. Shot between Libar and Sycamore Creeks, A.T.

4344 *Astragalinus tristis* ♀ ad. 133:228:76:54; cul., 10.5
 gape, 11; tars., 14.5; mte., 15.5; mt., 5.5.

4345 *Astragalinus tristis* ♀ ad. 132:226:75:53; cul., 10.8
 gape, 11; tarsus, 14; mte. 16; cl., 5.5.

4346 *Astragalinus tristis*. ♂ ad. 132:241:78:56; cul., 11;
 gape, 11.2; tars., 14; mte., 17; mt., 12; claw, 6.

4347 *Astragalinus tristis* ♂ ad. 140:243:80:56; cul., 11;
 gape, 11; tars., 15; mte., 17; claw, 6.

4348 *Astragalinus tristis* ♂ ad. 132:235:78:55; cul. 11;
 gape 11; tars., 13; mte., 15; claw, 5.5.

4349 *Astragalinus psaltria* ♂ ad. 117:206:67:46; cul., 10;
 gape, 10; tars., 13; mte., 15; claw, 5.3.

4350 *Astragalinus psaltria* ♂ ad. 114:202:66:45;
 cul., 10; gape, 10; tars., 12; mte., 14; claw, 5.

4351 *Astragalinus psaltria* ad. 111:204:65:45;
 cul., 9.5; gape, 9.6; tarsus, 13; mte., 15; cl., 5.

4352 *Astragalinus psaltria*. ad. 112:198:64:45.
 cul., 10; gape, 10; tarsus 13; mte 13.5; cl., 5.

4339 *Accipiter fuscus* ♀ ad. 355; 680; 212; 178; cul. + cere, 19; cere, 8.5; cul., 12; gape, 20; tarsus, 54; mt. 47; mt 36; Cl., 11.5. Irides yellow.

4354 *Agelaius phoeniceus* ♀ ad. 211; 350; 109; 85; cul., 19; gape, 19.5; tarsus, 28; mt., 28; Cl., 9.

4355 *Agelaius phoeniceus* ♀ ad. 207; 343; 109; 83; cul., 19; gape, 19; tarsus, 27; mt., 27; cl., 8.6.

4356 *Agelaius phoeniceus* ♀ ad. 210; 355; 114; 87; cul., 18.5; gape, 18.5; tars., 26; mt. 26; cl., 8.8.

Dec. 26th, 1885. Ft. Verde, A. T.

No. 291. *Mephitis interrupta* ♂ ad. total length, 500; tail to end of hairs, 250; to end of vertebrae, 150; chest girth, 150; tip of nose to eye, 25; to center of pupil, 29; to ear, 50; to meatus 52; tip of ear, 69; to occiput, 69; tip of nose to angle of mouth, 29; to end of outstretched hind leg, 360; distance between eyes, 19; longest whiskers, 48; ear height above crown, 16; above meatus, 34; width, 24; index, 68; manus, 37; breadth of fore foot, 16; claws 1st (inner), 7; 2nd, 10; 3rd, 10.5; 4th, 10; 5th, 8; hind leg, 84; pes, 46; breadth of hind foot, 14; claws 1st (inner), 5; 2nd, 6; 3rd, 7; 4th, 6.5; 5th, 6; greatest breadth of tail, 250.

4353 *Lophortyx gambeli* ♂ ad. 289; 378; 118; 110; cul., 11; mt., 8; gape, 14; length of head plume, 46; tars., 32; mt., 38; mt., 29.5; claw, 10; inner claw, 9; outer 8; claw of hallux, 6.

4357 *Colaptes auratus mexicanus* ♂ ad. 340; 553; 175; 127; cul., 40; gape, 43; tars., 30.5; mt., 33; mt., 22; cl., 12;

4358 *Bubo virginianus subarcticus* ♀ ad. 515; 1310; 370; 230; cul. + cere, 40; cere, 18; cul., 27; gape, 46; tip of bill to center of pupil, 51; to occiput, 93; length of ear tufts, 73; tars., 60; mt., 66; mt., 27; mt. claw, 26; inner claw, 28; outer claw, 23; hind claw, 24. Irides, bright yellow, cere & bill nearly uniform plumbeous black but with mandible slightly tipped with horn color, the claws horn color at base rapidly shading to plumbeous black. The few terminal scutellae of

4359 *Ardea herodias* ♂ ad. ^{two plumbeous, sex positive} ^{Stomach contained a lot of worms of *Hesperomyia eremica* & *S. pumila*} ^{Length to end of claws, 1540} 1165; 1850; cul. + tars., 490; tail, 165; cul., 134; gape, 174; height of bill at base, 30; width 20, measured below base of nostril; tip of bill to center of pupil, 170; from head of tibia to end of toes, 555; tibia, 245; bare portion, 120; tars., 187; mt., 110; mt., 122; claw, 12;

Dec. 28th, 1885. Fort Verde, ~~Chihuahua~~, A. T.

4360 *Ceryle alcyon* ♀ ad. Shot on Clear Creek. 350; 588; 169; 105; cul., 58; from frontal feathers, 49; gape, 72; tarsus, 12; bare tibia, 19; mt., 25; cl., 9.5.

Note: The Square Peak range is capped with snow for the first time this winter. Deer will come down *Tallinago media wilsoni*. - One seen on Xmas day (Dec. 25th). They have been steadily decreasing since autumn.

No. 292. *Hesperomys leucopus eremicus* ♂ ad. This is an unusually fine adult specimen. It was preserved in the fluid, to be mounted for the American Museum. The skull was not thoroughly cleaned and the dimensions cannot, therefore, be taken.

Total length, 195. Head and body, measured to tubercle of ischium 93. Tail to end of vertebrae 105; to end hairs, 109. Ears, height above skull, 17; above notch, 19; width, 15. Chest girth, 15. Distance between eyes, 8. Longest whiskers 40. From tip of nose to eye, 13; to center of pupil, 15; to ear, 23; to meatus, 23; to tip of ear 42; to occiput, 29; to end of outstretched hind leg, 128. Manus, 12; pes, 20. Fore leg 24. Hind leg 37.

No. 293. *Cariacus macrotis*. ♂ ad. "Lactus" Dec. 22nd, 1885. Shot by Sergeant Scanlin, 1st Reg. Co. "K" 1st Infantry. Between Clear Creek and Sycamore Creek, tributaries of the Rio Grande. Head, skin of body and one fore and one hind leg preserved. Estimated weight before dressing, 175 lbs.

Girth of pedicle of ear (outside skin) 180.
 Total length, 1780. Head and body, measured from tip of muzzle to tuber ischii, 1520. To end of hind leg, 2368. Tip of nose to eye, 185; Centre of pupil, 205. To ear, 265; to tip of ear 565; to occiput, 340. Height of nasal pad, 37; width, measured ^{between} inner margins of nostrils, 32. Ears, height above skull, 280; above notch 220; width 140. Chest girth 960. Distance between eyes, 118; between horns, measured below ear, 60. Tip of nose to horns, 260. From head of penis to end of hind hoof 970. From femoro-tibial joint to end hoof, 845; From heel to end of hoof 490. Tail to end of hairs, 350; vertebrae, 230.
 Fore leg from acromion to end hoof 850; from elbow (end of olecranon), 665; from wrist ("knee") to end hoof 370. Weight dressed, 150 (estimated).
 Girth of neck behind occiput, 390. Girth of head ^{taken} between horns and ears, 485.

Fore foot: - Measurements represent chord taken with dividers. Anterior edge, 49; superior edge, 45; inferior edge, *75. From tip of hoof to base of lesser hoof, 127. Width of each great hoof, 26; width of both taken together, 51. Length of upper (lesser) hoof at external edge, 27; width at base, 29. *Equals greatest length of hoof measured below.

Hind foot: Hoof anterior edge, 30; superior edge, 40; inferior edge, 70. From tip of hoof to base of lesser hoof, 125. Width each great hoof 22; width of both taken together, 70. Length of tarsus from heel to tarso-metatarsal joint, 380; length of gland on its side, 144. Length between the articulating surfaces of the bone, this part of the leg is not appreciably different in color from the rest; but it is ^{densely} coated with long bushy hairs 27 mm long.
Color of fore leg. From the radio-metacarpal joint down, the fore leg is ^{creamy} white upon the inner and posterior surfaces down to the upper digits. The interdental region is densely haired with long hairs darker than the rest, this perhaps being due to earth staining. The anterior and outer aspect down to the hoofs is distinctly rusty

the hairs being sooty at base instead of unicolorous as are the whitish hairs of the opposite surfaces.
Color of hind leg from the tibio-metatarsal (articular) joint to the hoofs is rusty yellowish brown upon the outer surface, much paler upon the inner aspect. There is a long tuft of dense hairs of slightly darker color upon the inner side of the femur between the heel and upper articulating surface of the bone and a similar growth upon the outer side ~~of the~~ in the region corresponding to the extent of the gland upon the outer side of the leg, which commences exactly 29 mm. from the upper articulation (tibio-tar). There are always lots of cactus spines imbedded in the skin and subcutaneous fascia of all adult Deer examined by me. This specimen has a coarse almost shaggy coat. It is in what is termed the "blue" coat by hunters, who say the bucks are always fat, ^{and in prime condition} when in this dress, which is ordinary winter pelage. The hairs of the back and sides are bluish-gray, but the black and white annuli and points gives a general pepper and salt color to the whole dorsum. The individual hairs are bluish-gray, palest at base subterminally ^{annulated} ~~ringed~~ with whitish, the rings accentuated by tapering points ^{black} of it. Darkest in the median line, especially from between the horns to the interscapular region and the tuft of long hairs at end of rump covering the base of the tail. In these places the hairs are many of them black throughout, or with very broad pointing of black, and narrow annuli of whitish. Upon the sides like the annuli are broader and rusty tinted, giving a paler and slightly ferruginous cast to those parts. The hairs surrounding the white buttocks are ^{more} decidedly rusty. The chest is sooty plumbeous darkest in front, fading to white upon the inner aspect of the thighs and ~~lower~~ under part of the abdomen. The white of the latter parts change

top pale yellowish-brown on the inner side of the limb at the heel (hook). The mixed gray black and white color of the dorsum extends downward upon the outer side of the thighs to the heel, the ferruginous washing to the white annule appearing more strongly below, but changing quite abruptly to rusty brown just above the heel joint. The axillae are white, changing upon the lower part of the fore limb to creamy white. The ^{color of the} outer side of the forearm from the elbow to the "knee" changes gradually to rusty brown.

The lower part of the limbs are described above. The head is preserved in pickle. The tail is white all round at base, with a heavy black brush at tip which is expanded. The under side of the tail is base nearly to the black tip.

December 29th 1885. Fort Verde, A. T.

4361 *Buteo borealis calurus* ♀ ad. Shot with rifle at 150 yds. ⁶¹⁵ 615; 1435; 445; 250; Cul. at cere, 40; cere, 16; Cul., 27; gape, 46; tarsus, 91; oute, 67; int, 47; hind cl., 32; inner cl., 29.5; middle cl., 24; outer cl., 20.

No. 294 *Bassaris astuta*. ♀ ad. Box canyon of the Verde River 20 miles south of Fort Verde, Arizona, Dec. 30th 1885. Total length, 815. Head and body, measured to end of os ischium 385; Tail to end vertebrae, 398; to end hairs, 455; width expanded, 110. Ears, height above crown, 47; above notch, ^{above meatus, 48} 48; width, ^{to angle of mouth, 40} 35. From tip of nose to eye, ^{from tip of nose to front incisors, 8.5} 30; to center of pupil, 38; to ear, 69; to meatus, 68; to tip of ear, 120; to occiput, 89. to end outstretched hind leg, 530; Distance between eyes, 17; Chest girth 145; Longest whiskers, 73; ^{toes extended. width of manus, 19} Manus 45; Pes, 70; Fore leg, 98; Hind leg 127; Fore claws: 1st (inner) 5.4; 2nd 5.5; 3rd 6; 4th 6.5; 5th 6; Hind claws: 1st (") 5; 2nd 5.5; 3rd 6; 4th 6; 5th 6; distance between outstretched fore feet 345; width of hind foot, 19; forelimb measured from humero scapular

exterior
measured
with skull
of trunk

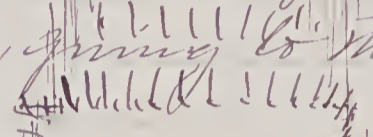
No. 295

girth of middle of neck, 100; distance between outstretched hind feet, ³⁸⁸ 388; articulation to end of longest claw, 142; hind limb from head of femur to end of longest claw, 186; belly girth 180; loin girth, immediately in front of thighs 135; *Bassaris astuta* ♀ ad. ^{of same species} Total length, 790; head & body measured to end of os ischium, 375; Tail to end of vertebral, 375; tail to end of hairs, 425; width expanded, 110; ears, height above crown, 45; above notch, ^{above meatus, 50} 46; width, 38; from tip of nose to eye, 30.5; ^{to angle of mouth, 42} from tip of nose to front incisors, 10; to center of pupil, 38.5; to ear, 68; to meatus, 68; to tip of ear, 122; to occiput, 88; to end outstretched hind leg, 520; distance between eyes, 19; chest girth, 145; loin girth 135; belly girth, 160; Longest whiskers, 76; manus, toes extended, 45; width of manus, 20; Pes 69; width of hind foot, 19; fore leg, 95; hind leg, 124; Fore claws: 1st (inner), 5; 2nd 6; 3rd 6; 4th 6; 5th 5.5; Hind claws (1st) 5; 2nd 5.5; 3rd 5.8; 4th 6; 5th 6; distance between outstretched fore feet 340; forelimb measured from humero scapular articulation to end of longest claw 140; hind limb from head of femur to end of longest claw 183; distance between outstretched hind legs, 375; girth of middle of neck, 100.

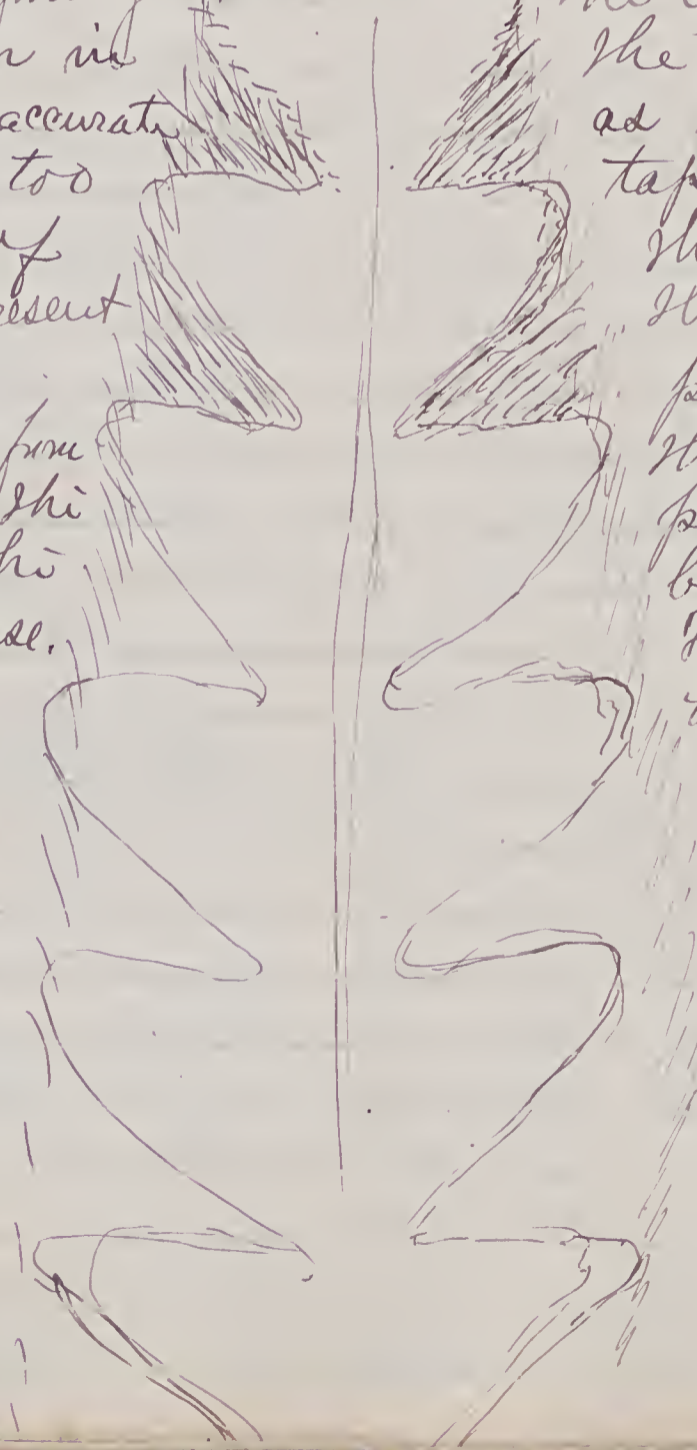
No. 296

Bassaris astuta ♂ ad. December 27th 1885. Total length 825; Head & body, measured to end of os ischium, 400; Tail to end of vertebral, 390; to end of hairs 450; width expanded, 110; Ears, height above crown 44; above notch, ^{above meatus, 45} 46; width, 38; tip of nose to eye, 31; to front incisors, 10; to angle of mouth, 42; to center of pupil, 39; to ear, 69; to meatus, 70; to tip of ear 119; to occiput, 89; to end outstretched hind leg, 560; distance between eyes, 20; chest girth, 160; loin girth, 160; Longest whiskers 84; Manus, toes extended, 46; width of manus, 20; Pes, 75; width, 19; Fore leg 103; hind leg, 132; Fore claws (1st inner) 5.5; 2nd 6.5; 3rd 6; 4th 6; 5th 6; Hind claws (1st inner) 5.5; 2nd 7; 3rd 7; 4th 7.2; 5th 7; distance between outstretched fore feet, 355; forelimb

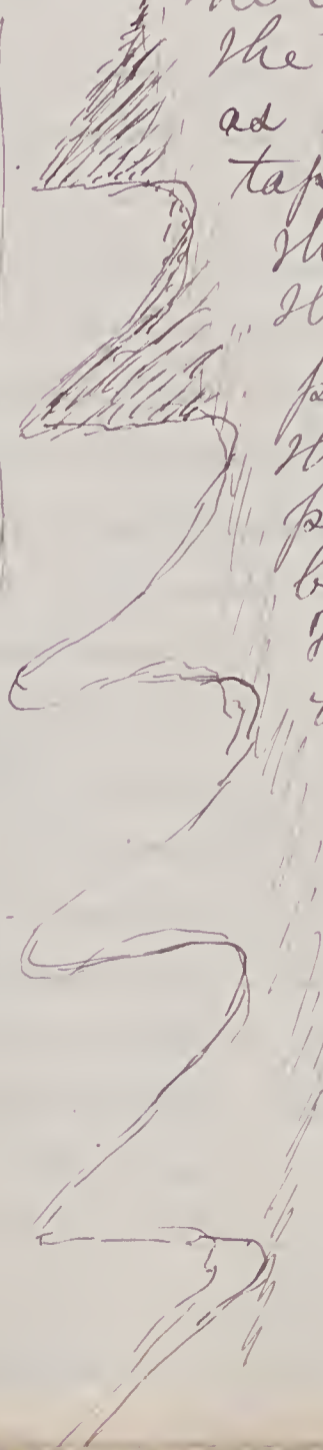
measured from humero scapular articulation, 155; distance between outstretched hind feet 390; hind limb from head of femur to end of longest claws, 197; girth of middle of neck 110;

Corrus, musteline. Tail, elongated, flattened, ^{beneath} slightly tapering. Hair of two sorts, close fur underneath, the top & sides coated with long outer hair, which form nine (9) alternating bands of white & black; the latter color forming a wide terminal portion, the bands narrowing toward the base pair which are nearly obsolete, the white & black bands about equal in breadth, if any thing, the black the broadest. The black bands do not encircle the tail, but those hairs which grow on the outer side are visible beneath, giving to the tail which is white below giving  the curious effect shown in which is inaccurate ring the tail too

white rings of of the tail present of being gray, this, resulting from black tips of the band, all the white to the base. of the black plumbeous.



The dorsum the appearance proximally, the overlapping preceding being pure. The under fur bands, sooty



General color of dorsum gray mixed with yellowish brown. The top of the head and median line of back have a broad pointing of black going a dusky cast, which fades away a little distance from the median towards the sides and becomes of a brownish buff along the flanks blending with the white of the entire under surface. No 294 ad is nearly pure white beneath with but a faint buff tinge upon the throat and neck; but the other two specimens, (both male and female) have beautiful suffusion of pinky-buff upon the under surface, most strongly marked upon the chin and throat and fading posteriorly, this delicate coloring being comparable to the breast of a male Sheldrake (Mergus merganser americanus). The under fur above is a fine fuliginous gray. The ears are elongated with rounded points, bare inside with a coating of short white hairs ~~surround~~ around the inner edge. The outer surface covered with short white fur changing to sooty at base. The upper lips are ~~black~~ white. The eyes are encircled by an area of black hair of variable extent in the three specimens examined, this area succeeded by a circle of white, ^{which is} nearly obsolete anteriorly but broad behind and continuous below with the white of under side. On either side of the muzzle is a triangular blackish patch. The forehead and top of muzzle are mixed gray and black, about the same as upon cheeks. The whiskers are mixed plumbeous, black and white, very long and thick. Both fore and hind limbs are white within and about the same color as the sides externally (gray ~~was~~ suffused with yellowish brown with a slight admixture of black points. The outer inferior edge of hind foot is sooty black and there is a dusky spot on the top of the fore foot. All of the feet are whitish.

December 29th, 1885. Ft. Verde, A.T.

No. 297 *Leariacus macrotis*. ♂ ad. Shot by myself. An old doe, suckling a half-grown male kid, whose horns were just starting through the skin. Her udder was filled with milk. Skin of head ~~and~~ preserved. Distance between tip of ear and spread, 540. Height of muzzle, 32; its breadth (between inner edges of nostrils), 25. From tip of nose to eye, 167; to centre of pupil, 185; to ear, 248; to tip of ear, 490; to occiput, 290. Girth of neck behind occiput, 305. Girth of head before ears, 415. Ears bud above crown, 230; above notch, 195; width, 125; width of pedicle, taken outside, 150. Tip of nose to angle of mouth, 93. Between eyes, 97. Between ears, 57.

No. 298 *Mephitis interrupta*. ♀ ad. Total length, 480. Head and body measured from tip of nose to end of os ischium, 240. Tail from root to end vertebrae, 135; to end hairs, 245; width, 248. Ears above crown, 16; above notch, 25; width, 25; tip of nose to eye, 22; to centre pupil, 25.5; to ear, 42; to meatus, 44; to tip of ear, 65; to angle of mouth, 25; to front incisors, 8; to occiput, 61; to end outstretched hind foot, 330; Between eyes, 16; chest girth, 110; Manus, 34; ^{width 13;} Pes, 42; Fore leg from head of humerus, 91; Hind leg from head of femur, 109; Fore leg from humeral-radial articulation, 68; Hind leg from ^{pubis} knee, 72; Width of fore foot, Width of hind foot, Fore claws: 1st (anterior), 6; 2nd, 10.5; 3rd, 11; 4th, 9.5; 5th, 7.5; Hind claws: 1st (anterior), 5; 2nd, 5; 3rd, 5; 4th, 5.5; 5th, 4.5;

No. 299 *Mephitis interrupta*. ♀ ad. Total length, 430. Head and body (as above), 225. Tail to end vert., 135; to end hairs, 220; width, 220. Ears above crown, 13; above notch, 24; width, 24. Tip of nose to eye, 21; to centre of pupil, 24; to ear, 39; to meatus, 41; to tip of ear, 62; to occiput, 57; to end hind foot, 305. Between eyes, 16. Chest girth, 60. Manus, 32. Pes, 36. Fore leg, 57. Hind leg, 66. Nose to angle of mouth, 24. Fore limb to head humerus, 79. Hind limb to end claws from head femur, 92.

Dec. 30th, 1885

No. 300 *Mephitis interrupta*. ♀. Skull and skin of head preserved. Tip of nose to eye, 21; to centre pupil, 25; to ear, 42; to tip of ear, 68; to meatus, 45; to occiput, 61. Ears above crown, 15; above notch, 25; width, 22. Between eyes, 17. Nose to angle of mouth, 26. Longest whiskers, 3.5. Tip of nose to front teeth, 8.5.

No. 301 *Leonechatus macrurus*. ♂ ad. Skull and skin of head preserved. ^{Dec. 29th, 1885} Tip of nose to eye, 42; to centre pupil, 47; to ear, 70; to meatus, 72; to tip of ear, 92; to occiput, 95. Ears above crown, 13; above notch, 26; width, 25. Between eyes, 26. Nose to angle of mouth, 4.3. Longest whiskers, 3.8. Tip of nose to front teeth, 2.1.

No. 302 *Leonechatus macrurus*. ♂ ad. Skull and skin of head preserved. ^{Dec. 29th, 1885} Tip of nose to eye, 47; to centre of pupil, 52; to ear, 75; to meatus, 77; to tip of ear, 99; to occiput, 107; to angle of mouth, 5.3. Ears above crown, 15; above notch, 28; width, 27. Between eyes, 31. Longest whiskers, 2.6. Nasal pad, 25. Tip of nose to front teeth, 2.6.5.

No. 303 *Leonechatus macrurus*. ♀ ad. Skull and skin of head preserved. ^{Dec. 29th, 1885} Tip of nose to eye, 46; to centre of pupil, 50; to ear, 68; to meatus, 73; to tip of ear, 95; to occiput, 102; to angle of mouth, 4.3. Ears above crown, 11; above notch, 23; width, 24. Between eyes, 29. Longest whisker, 3.5. Tip of nose to front teeth, 2.3. Nasal pad length, 25.

No. 304 *Bassarus astuta*. ♂ ad. ^{of Verde} Pappo Cañon, 20 miles south of Fort Verde, A.T. December 26th, 1885. Skull and ^{skin} preserved with 1st pair cervical vertebrae. ^{Dec. 31, 1885. Ft. Verde, A.T.}

No. 305 *Hesperomys leucopus oregonus*. ♀ ad. Total length, 183. Head and body to end ischium, 94; tail to end vert., 92; to end hairs, 95. Ears above crown, 14; above notch, 17; width, 13. Longest whisker, 3.6. Between eyes, 9. Chest girth, 65. Tip of nose to eye, 13; centre pupil, 14; ear, 20; meatus, 21; tip of ear, 40; occiput, 27; end hind leg, 134. Distance between outstretched fore feet, 88; hind feet, 117. Manus, 10. Pes, 20. Fore leg, 24. Hind leg, 39.

January 2nd 1886. Ft. Verde, A.T.

4362. Asio americanus ♀ ad. Shot in a narrow box cañon running into Clear Creek. Started from the very cedar tree in which I wounded. The only one I ever saw in Arizona before, there were two in the cañon to day in different trees one escaped wounded: Irides bright yellow. Bill, cere and claws, plumbeous-black. Soles of feet fleshy, bare scutellae of ends of toes above, plumbeous. List. 377; 990; 308; 163; cul. at eye, 28; cere, 14; culmen, 17; gape, 30; tip, bill to centre pupil, 38; ~~to cere~~ 58. Length of ear tufts 50; tarsus, 42; mt., 30; mte., 45; hind cl. 15; inner cl., 17; mid. cl., 17.5; outer cl., 14

January 3rd 1886.

4363. Cardinalis cardinalis suburbanus ♀ ad. 239; 315; 99; 117; cul., 19; nost., 13; gape, 19; height of bill at base, 16; width, 13; tars., 26; mte., 25; mt., 18; claw, 7. For colors see *

January, 4th 1886.

4364. Plectrophanes macconnii ♂ ad. 157; 291; 93; 60; cul., 12; nost., 9; gape, 14; height of bill at base, 8.5; width, 8.5; tars., 20; mte., 18; mt., 13; claw 5.5; hallux + claw, 17; claw of hallux, 8. Iris hazel, Bill brownish flesh color, shading to dusky at tip. Tarsi, yellowish brown in front, with a yellow line or stripe behind like the soles of feet. Dorsum of feet + claws, dark brown.

* Iris, hazel, bill orange red, horn color at extreme tip. Tarsi, feet + claws, brown.

4365. Branta canadensis ♀ ad. 870; 1740; 490; 160; cul., 54; bill from extreme base, 63; from nostril, 28; gape, 63; height at bill measured from at frontal feathers, 30; width at base, 26; tip of bill to center of pupil, 88; tip of bill to occiput, 125. Bare tibia, 28; tars., 91; mte., 99; mt., 88. Claw, 14. Iris, dark hazel. Bill, blue black, legs + feet, ^{plumbeous} black.

January 5th 1886.

4366

Fulix collaris - ♂ ad. Length to end of claws, 495; 435; 725; 205; 70; cul. from frontal feathers, 45; extreme base, 52; nost., 30; gape, 52; height of bill at extreme base, 22; width at base, 20; distance between nostrils, 11; tip of bill to center of pupil, 69; to occiput, 94; bare tibia, 10; tars., 36; mte., 61; mt., 56; claw, 8; hallux + claw, 17; claw of hallux, 5. Irides, ^{orange} yellow. Bill banded at base and sub terminally with white, this color changing soon after death. A small spot of same in front of and below nostrils. The space between the bands, bluish gray - the distal portion, black. The mandible, dusky, mottled with grayish and reddish; inter-ranal membrane spotted with black on a flesh colored ground. Front of legs and dorsum of toes, pale greenish gray, lined with dusky at joints. The webs, under and posterior surfaces, blackish, claws, plumbeous black. Tail of fourteen feathers. Body short and rounded; head large + puffy. The feathers of crown and occiput elongated. Point of chin white, ^{crest,} head all around and upper part of neck, glossed with green purple and violet. Middle of neck, with a ring of orange brown feathers with ^{tips with dusky} ~~tips with dusky~~ scarcely continuous above. Below this ring, the neck and body to shoulders are black, glossed with green + purple. The lower feathers in front edged with yellowish, the lowest minutely dotted with black. The lower parts and space immediately in front of shoulders, white. Sides, ^{and on edge of} very finely vermiculated, with black. The tips of the longest plumes, buffy gray. Under tail coverts and crissum, ~~and space anterior to the crissum~~ black, some of the feathers with a dotted whitish edging. Abdomen, ^{and} legs, ^{very finely} vermiculated with black and white ~~and yellowish ground~~ Scapulars

and upper tail coverts, ^{Anterior} and back black glossed with green. Interscapulars with ^{light} pale yellowish brown edging. Scapulars minutely dotted with ^{gray} white. Rectrices dusky grayish brown. Wing dark grayish brown the coverts glossed with green. The least coverts sprinkled with minute white dots. The outer primaries edged externally with blackish and all of them tipped with the same. The secondaries, forming the speculum, grayish, plumbeous broadly ^{tipped} edged with blackish, light of the inner ones edged with white upon ~~the~~ outer webs.

4367 Fulix collaris ♀ ad. Length to end of claws, 465; 410; 680; 192; 67; cul. from frontal feathers, 43; from extreme base 49; from nostril, 28; gape, 51; height of bill at extreme base, 23; width at base, 18; tip of bill to center of pupil, 66; to occiput, 92; bare tibia, 10; tars., 35; mte., 61; mt., 55; claw, 8; hallux and claw 20; claw of hallux, 5. Irides greenish yellow, bill bluish gray at base, the white basal ring of adult male nearly obsolete, the sub-terminal one distinct, bluish gray color. The terminal portion blackish neutral tint, mandible, neutral tint without spotting or marbling. Terminal area blackish. Inter-ranal membrane purplish gray. Legs & feet as in male above described. Chin and feathers around base of bill whitish, changing above to rusty. The parts which are black in the male, in the female are brown. Upon the back of the neck and fore part of the back, nearly uniform golden brown, changing posteriorly to blackish. The feathers on either side of the rump, with grayish dotted edging, in the male scarcely apparent. The crown of the head is also dusky with rusty edging to the feathers. The sides of head, throat, sides and under part of neck and breast,

with whitish edgings. There is a white ring around the eye, extending ^{prolonged backward} downward, for a distance of about an inch. The white of the underparts is everywhere ~~spotted~~ ^{marked} with the ~~sub-terminal~~ ^{sub-terminal} dusky bars to the feathers. This light area does not extend forward in front of the shoulder as in the male. The sides are of a beautiful golden brown, with some grayish vermiculation. The abdomen and crissum, are mixed gray and brown. The under tail coverts, white with black dotting and brown spotting. Wings and tail about as in the male. These are fine, fully adult birds.

4368. Anas boschas ♀ ad. Length to end of claws, 620; 580; 930; 280; 108; cul. from frontal feathers 53; from extreme base 63; from nostril, 39; gape 65; height at extreme base, 25; width, 21; bare tibia, 12; tars., 45; mte., 64; mt., 55; claw, 9. hallux. Tip bill to center pupil, 84; to occiput 111; hallux + cl., 20; Cl., 6.5.

4369 Accipiter luscus ♀ juv. This bird had just finished neatly picking a Gambel's Quail and began to eat it when I came along and flushed it from the margin of the sluice. It flew about 50 yards, across the stream and alighted with the Quail still in its claws, as I found it when shot. This shows a great deal of strength in so small a bird! 345; 660; 212; 185; cul. at cere, 18; cul. 5; cul. 11; gape, 18; tars., 54; mte., 44; mt., 35; Cl., 11. Irides, yellow. Cere, eyelids and edge of gape, greenish-yellow. Bill bluish-gray at base shading to blue-black. Tarsi and feet, lemon-yellow; claws, plumbeous-black. Stomach contained a part of Gambel's Quail.

4370 Agelaius phoeniceus. ♂ ad. (Change rusty edge). 230; 398; 128; 96; cul., 21; gape, 21; tarsus, 30; mte., 33; mt., 22.5; Cl., 10.5. Irides, hazel. Bill dusky, neutral tint. Legs, feet and claws plumbeous black.

Pipilo mexicanus *polycarpus* ♀ Immature.
 500; 1185; 365; 220; cul. + cere 29; cere, 6.5;
 cul., 22.5; gape, 33; tip of bill to center of pupil, 45;
 to occiput, 65; from frontal feathers to occiput, 58;
 tars., 64; Mt., 67; Mt., 51; claw, 19; hind claw, 23;
 inner claw, 21; outer claw, 18; ^{white} Orbit, surrounded
 by a bare area of chrome yellow, upon the upper
 and lower lids are sparse ^{white} downy feathers, eyelashes
 black. cere, legs & feet chrome yellow. The bill,
 both mandibles, pale greenish yellow at base,
 shading through bluish gray to the plum-
 beous black tip. Below plumbeous black. This
 specimen agreeing with the second one
 described by Mr Ridgway in Vol III North
 American Birds, page 123, except
 axillars which are slightly spotted with
 white and rusty, and edged with the
 same. Edge of wing white. All of the lesser
 under wing coverts (lining) are white, with
 clear vandyke-brown centers. Longest
 primary with ten transverse spots of white.
 Stomach examined with birds - *Lophortyx*, *Harporhynchus*, etc.

January 7th 1885. Ft. Verde, A.S.

4372 *Agelaius phoeniceus* ♂ (ad.?) Wing patch orange, ^{equal}
 buff row of feathers in this case black. barely edged
 with buff. Plumage rusty. 233; 390; 122; 98;
 cul., 21; gape, 23; tarsus, 29; mte, 29; cl., 9.

4373 *Agelaius phoeniceus* ♂ ad. 248; 407; 132; 108; cul.,
 23; gape, 23; tarsus, 30; mte, 31; cl., 9.5.

4374 *Agelaius phoeniceus* ♂ ad. 240; 385; 125; 98; cul.,
 22; gape, 22; tarsus, 28; mte, 29; cl., 9.

4375 *Agelaius phoeniceus* ♂ ad. 235; 390; 127; 97; cul.,
 21; gape, 21; tarsus, 30; mte, 31; cl., 9.

4376 *Anas boscas* ♀ ad. Length to end claws, 595.
 552; 890; 263; 98; cul. fr. frontal feathers, 57; from extreme
 base, 65; nostr 40; gape, 67; height at base, 22;
 width at base, 20; tip bill to centre pupil 83; to occiput 111

bare tibia 14; tarsus, 44; mte, 60; mt., 52
 cl. 8.

4377 *Anas boscas* ♂ ad. Length to end claws 635
 610; 945; 280; 108; cul. from frontal feathers, 57; from
 extreme base, 67; nostr., 42; gape 67; height at base, 24;
 width at base, 22; tip of bill to center of pupil, 90;
 to occiput, 122; bare tibia, 15; tars., 46; mte, 60;
 mt., 57; claw, 9.

4378 *Spatula clypeata* ♂ juv. Length to end of claws, 542;
 517; 830; 252; 110; cul. from frontal feathers 65;
 from extreme base 73; nostr., 49; gape, 74; height of bill
 at base, 23; width at base, 17; width at widest
 point, 30; tip of bill to center of pupil, 93; to
 occiput, 119; bare tibia, 13; tars., 41; mte, 56;
 mt., 47; claw 10.

4379 *Spatula clypeata* ♂ juv. Length to end of claws,
 540 - 508; 805; 248; 102; cul. from frontal
 feathers, 62; from extreme base, 73; gape, 75;
 nostr., 49; height of bill at base, 24; width at
 base 15; width at widest point, 29; tip of bill
 to center of pupil, 91; to occiput, 117; bare
 tibia, 12; tars., 39; mte, 53; mt., 46; claw, 9.

4380 *Lophodytes cucullatus* ♀ ad. 430; 625; 180; 95;
 length to end of toes, 18 less than the length.
 cul. from frontal feathers, 36; from extreme base, 43;
 gape, 46; height of bill at base, 14; width, 12;
 tip of bill to center of pupil, 56; to occiput, 87;
 to end of crest, 120; bare tibia 10; tars., 30;
 mte., 51; mt., 46; claw, 6.5. Total length

No. 306 *Neotoma floridana mexicana* ♀ ad. 360; head
 & body, 190; tail to end of hairs, 175; to end of ver-
 titrals, 169; tip of nose to eye, 25; to center of
 pupil, 28; to ear, 43; to meatus, 43.5; to tip of ear, 74;
 to end of outstretched hind foot 265; distance between eyes, 15;
 chest girth, 110; longest whickers 70; ears above crown, 27; above
 notch, 30; width 25; manus, 18; pes, 34; foreleg, 51; hind
 leg, 70; longest toe claw, 2.2; longest hind claw, 3.5.

Note. - Sayornis sayi + Harporhynchus erissalis began to sing early in December 1885.

Jan 11th 1886. Fort Verde, Ariz.

A few days ago John Mason shot a pair of Black Brant (Bemica nigricans). I saw one to-day. I saw one to-day, but approached so awkwardly that I did not get a shot. It ran a dozen yards to edge of water and waded the water with its feet as it arose slowly and so heavily that I thought it wounded, but it soon flew handsomely and uttered a short melodious honk at intervals.

Rhinchophanes meadowi is often seen about post. Habits like Shore Lark. Same until frightened, when they fly out of sight and do not return.

Agelaius phoeniceus. - Flocks of male Blackbirds are abundant. Some contain a few females. One shot brought down 6 males & 1 female (7). Last winter and first part of this winter - all the flocks were of females.

Castor fiber canadensis. - Saw a place where its castorium was deposited. The ground was stained blackish & my attention attracted by the odor when riding near.

Anas boscas. - Very common. Females much more abundant than males. In some flocks the sexes are alike in others both represented. Shot three, a very large drake.

4381 Anas boscas ♀ ad. Length to end of tail 605; 580; 940; 280; 110; Cul. fr. frontal feathers, 54; from extreme base, 65; gape, nostril 43; height at base, 24; width 23; tip of bill to centre of pupil, 87; occiput 117; bare tibia 13; tarsus 46; mte, 63; mt, 54; cl 9.

4382 Anas boscas ♀ ad. Length to end of tail 595; 555; 920; 267; 103; Cul. fr. frontal feathers 37; to extreme base 61; nostril 41; gape 61; centre pupil 86; occiput 116; bare tibia 13; tarsus 46; mte, 63; mt 54; cl, 9.

4383 Mareca americana ♂ ad. 535; 875; 268; 130; cul. fr. frontal feathers, 38; nostril 28; gape 4; height at base, 17; width, 19; tip of bill to centre of pupil, 67; to occiput, 92; bare tibia, ~~42~~ 41; tarsus, 42; mte, 54; mt, 45; cl 9.5.

4384 Mareca americana. ♂ ad. 515; 885; 172; 122; Cul. fr. frontal feathers, 37; from nostril, 27; gape, 46; height at base 18; width, 18; tip of bill to centre of pupil 67; occiput 90; bare tibia, 12; tarsus, 41; mte, 54; cl, 46; mt, 2.

January 12th 1886. Ft. Verde, A. T.

4385 Cardinalis cardinalis superbus ♂ ad. 243; 328; 103; 127; cul., 20; nostril 13; gape 19; height at base, 17; width 14; tip of bill to centre pupil 24; to occiput, 39; to end of crest, 60; tarsus, 26; mte, 26; mt, 18.5; cl., 8.5; hallux + cl., 19; cl., 10. Iris hazel. Bill orange-red. Tarsus + feet dusky brown; claws dark brown.

4386 Sialia arctica ♂ ad. 186; 345; 117; 78; cul., 14; nostril, 10; gape, 22; tars., 22; mte, 22; mt., 16; claw, 6. Iris hazel. Bill black. Legs, feet & claws, black.

4387 Cyberichla melanocephala ♂ ad. 175; 284; 91; 73; cul., 13; nostr., 9; gape, 19; tars., 29; mte, 22; mt., 18; claw, 5.

4358 *Lutra carolinensis aculeata* ♂ ad. 152; 280; 91; 52;
cul., 21.5; nostr., 15; gape, 24; tars., 16¹⁹; Mte., 21; Mt., 15;
claw, 6.5. Eyes dark brown. Maxilla ventral tint. Mandible pale blue shading to
plumbeous black at tip. Tarsi, feet & claws olivaceous brown.

4389 *Lophophanes wollweberi* ♂ ad. 124; 197; 63; 61; cul., 9;
nostr., 7; gape, 10; tars., 16.5; Mte., 15; Mt., 11; claw, 5.

No. 307. *Lynx rufus maculatus* ♂ ad. Weight, 27 1/2 lbs. avoird.
Description.

Upper surface, sides, and outer surface of legs, rusty yellowish brown, overlaid with grayish and spotted with brown. A series of linear markings in the vertebral region, commencing at the forehead and ending at the root of the tail. Upon the crown are two distinct lateral stripes enclosing linear series of brown spots of ~~brown spots~~ having a somewhat indefinite arrangement. The same obscure striping is observed upon the neck and interscapular region, becoming obsolete in the posterior dorsal region where a single dusky brown stripe occupies the median line, bifurcating into two parallel lines in the lumbar region and extending to the root of the tail. The dense under fur, and the longer hairs at base, yellowish-white, the latter shading to pale rusty yellow, tipped with gray, and subterminally banded with brown in the area forming the spots. The dark central lines formed by black or dark brown tips to the hairs. Upon the flanks and buttocks and posterior surface of the limbs, where the gray tips are mostly wanting, the color becomes rusty yellow. The under surface of the body and inner sides of the legs, white, spotted with brown with some rufous-brown staining in the vicinity of the dark spots. The hairs forming the black or upon the flanks dark brown spots, are white at the extreme base, shading through sooty to jet black. The ears have a dense coat of long white, or

yellowish-white hairs upon their inner surface. The tufts and dorsum are black, enclosing a large triangular spot of gray, except upon the outer, inferior angle, where the gray escapes and blends with the plain buffy area below, around the base of the ear. The point of the chin is sooty black, mixed with a few white hairs. The whiskers are mostly white, sometimes plumbeous at base or throughout; brows and cheek bristles, white. Eyelids bordered with white above and below; a black spot in front of the inner canthus. The lips are white, with about four linear transverse series of black spots extending through the bases of the whiskers and also forming a black patch upon the margin of the lip. The nose, mixed rufous and gray. The cheeks striped longitudinally with two wavy brown lines, enclosing two short ones in front, deepening in color to black posteriorly, where they join with the black patches of the ruff, which latter are separate in the median line below, by a narrow area of white. The ruffs are palest anteriorly, where there is little admixture of rufous. Below the ruff is a white area, succeeded by pale rufous, containing some spotting below, and enclosed beneath by a narrow, circular, blackish chest-collar. The region in front of the ears is grayish, the hairs being gray white fringed subterminally with white. Tail, light yellowish-brown above, mixed with gray, obscurely fringed with brown, and twice subterminally with brownish-black, rather broadly tipped above with jet black; under surface of tail, scrotum and anal region, white, the latter separated by an intervening rusty band. The white hairs of the lower surface exceed in length those of the dorsum, therefore forming the extreme tip of the tail. The naked olivaceous pads of feet are surrounded by a dense growth of sooty black hairs. The feet are mainly spotted

above with brown.

Dimensions:—

Total length 1020. Head and body measured to the tuberosity of the ischium, 870. Tail to end of vertebrae, 151 to end of hairs, 187. Ears, height above crown 83; above notch 76; width, 80; tufts 24. From tip of nose to front incisor teeth, 17; to eye 46; to centre of pupil, 62; to ear 129; to meatus 133; to tip of ear 202 or to end of pencils 225; to occiput, 165; to end of ^{claws of} anted stretched hind leg, 1180. Distance between eyes, 32; between ears, 65. Chest girth, 440. Bell girth, 455. Loin girth, 350. Tip of nose to angle of mouth, 60. Girth at middle of neck, 270; of head in front of ears, 330. Longest whiskers, 104. Longest eye brows, 62. Longest upper canine from gum, 18; lower, 16. Fore leg, from acromion process to end of toes, 415; from end of olecranon, 295. Manus, 120; width, 55. Girth at shoulder, 260; above olecranon 150; middle of forearm, 140; wrist below upper claw, 90; foot, 130.

Claws: 1st (inner) defective 12x19; 2nd 11x20; 3rd 10x20; 4th, 9x20; 5th, 9x18. Hind leg from great trochanter to end of toes 500; from patella, 365. Pes, 194; width, 55. Girth at thigh, 355; at knee, 210; above heel, 88; foot, 125. Claws: 1st (inner) 8x17; 2nd 10x16; 3rd, 9x16; 4th, 8x13. Length of facial ruff 70.

This animal was brought to me alive in a barrel, his foot still in a large steel trap. He was remarkably ferocious. A chain was fastened to the ring in the trap and the cat clung to a tree in front of the house. He was then liberated from the barrel, when he made a rush for a front window through which he would certainly have dashed had not the chain checked him suddenly just as his paws touched the sash. He extended the ruffs on the neck and his eyes became green. A pole was thrust in front of him, when he bit it furiously, seeking to escape in various directions, eyeing the piazza-roof above

him and looking around in quest of some means of escape. He made a barking sound like a raccoon under the same circumstances. Finding that his leg was broken above the point where the trap grasped it, I decided to shoot him, which I did in the ^{front of the} chest between the fore legs the bullet passing out in the middle of the right side. He stood the shot without shrieking and for a minute it was doubtful if the shot would kill him. Then he extended his tongue made an effort to vomit, making a loud noise, and expired with a convulsive tremor, biting the floor. The subcutaneous fascia contained numerous encapsulated pellets of no. 8 shot, with which he had at some time been plentifully peppered.

- 4390 Agelaius phoeniceus ♂ ad. 237; 400; 130; 105; cul., 23; gape, 23; tars., 29; mte., 29; claw, 9. —
- 4391 Agelaius phoeniceus ♂ ad. 244; 407; 131; 104; cul., 23; gape, 23; tars., 29.5; mte., 31; claw, 10. —
- 4392. Agelaius phoeniceus ♂ ad. 243; 414; 132; 100; cul., 20; gape 20.5; tars., 30; mte., 30; claw, 9. —
- 4393 Agelaius phoeniceus ♂ ad. 235; 402; 129; 100; cul., 22; gape, 22; tars., 29; mte., 30; claw, 9.5. —
- 4394 Agelaius phoeniceus, ♂ ad. 230; 396; 128; 98; cul., 21; gape, 21; tars., 29; mte., 31; claw, 10. —
- 4395 Agelaius phoeniceus ♂ ad. 252; 411; 133; 107; cul., 21; gape, 21; tars., 28; mte., 30; claw, 9. —
- 4396 Agelaius phoeniceus 242; 396; 128; 99; cul., 21; gape, 22; tars., 29; mte., 29.5; claw, 9. —
- 4397 Agelaius phoeniceus 228; 393; 124; 92; cul., 21; gape, 21; tars., 30; mte., 30; claw, 8. —
- 4398 Anas boschas ♂ ad 636; 1015; 305; 120; cul. from frontal feathers, 58; from extreme base, 69; nostr., 45; gape, 71; height of bill at base, 25; width at base, 24; to center of pupil, 90; to occiput, 127; bare tibia, 15; tars., 48; mte., 64; mt., 54; claw, 10; hallux + claw, 20; claw of hallux, 7. This large specimen was thin and poor. It weighed 2 lbs. 13oz. avoird. It could have easily have carried 4 lbs. of very fat.

Note on *Lynx rufus maculatus*.

Mr. George Wardell and his partner were walking their horses up Lynch Creek, Ariz., when they surprised and gave chase to a large Wild Cat. The animal ran a few hundred yards when it faced about and stood at bay. As neither of the men were armed, they also halted, when the cat again attempted to escape by flight but was pursued and treed. At a neighboring cabin lived a man who owned a very large dog whose courage and prowess at destroying large game was a favorite theme with its owner. One of the party was left to herd the cat while the other was dispatched for the man and his famous dog. In the mean time the man left to watch the cat, began a fusillade with rocks upon the animal in the tree and succeeded in breaking one of its hind legs before the others returned with the dog. The cat was then dislodged and sprang upon the dog scratching and biting it so that it was glad to escape. The cat was then shot.

On another occasion, Mr. W. was seated upon the bank of Walnut Creek Ariz., when a cat came creeping stealthily towards him through the brush, ^{upon the opposite side of the stream} and stopped within a few feet, when it discovered him and crouched close to the ground and watched him furtively as a cat does a bird that it wishes to capture. Becoming somewhat alarmed at the monotony of this situation, Mr. Wardell jumped up and shouted as loud as he could when the cat ran away.

He has known of both this species and *Felis concolor* "going mad" and entering cabins to attack the occupants and told of certain cases which had occurred, come by knowledge.

January 14th 1886.

- 4399. *Anas boscap* ♀ ad. 570; 945; 278; 104; cul. from frontal feathers, 54; from extreme base, 64; nost., 40; gape 66; height of bill at base, 23; width at base, 21; to center of pupil, 58; to occiput, 116; bare tibia, 16; tars., 45; mte., 59; mt., 51; claw, 8.5; hallux + claw, 17; claw of hallux, 6.
- 4400 *Anas boscap* ♀ ad. ~~585~~ 585; 965; 282; 106; cul. from frontal feathers, 53; from extreme base, 60; nost., 39; gape, 59; height of bill at base, 22; width at base, 22; to center of pupil, 82; to occiput 110; bare tibia, 15; tars., 42; mte., 59; mt., 50; claw, 9; hallux + claw, 17; claw of hallux, 5.5. Irides, hazel. Bill, ^{tinged with} yellowish at base and tip (except nail) and spotted around nostrils, residue olive brown. Ramus of mandible yellow, tip olive brown, intermandibular membrane spotted with olive brown on a yellow ground.
- 4401 *Buteo borealis calurus* ♂ juv. 530; 1240; 390; 245; cul. + cere, 33; cere, 12; cul., 23; gape, 43; tars., 80; mte., 60; mt., 40; claw, 22; claw of hallux, 29; inner claw, 26.5; outer, 18. Irides white minutely granulated. Cere and edge of gape yellowish green. Bill, light bluish at base shading to plumbeous black at tip. Tarsi + feet greenish yellow, claws plumbeous black. Tail becoming red. Had eaten a cottontail.
- 4402 *Dafila acuta* ♂ ad. Length to end of outstretched hind foot, 663; 890; 262; 160; cul., 504; from ext. base, 63; gape, 64; nostril, 44; height at base, 23; width, 18; bare tibia 14; tarsus, 45; mte., 60; mt., 52; cl., 9. hallux + claw, 16; claw 6.
- 4403 *Bernicla nigricans* ♀ ad. to end of outstretched claws, 870; 767; 1555; 435; 137; cul. to frontal feathers 42; to extreme, 57; from nostril, 21; gape, 50; length of nost., 10; distance between nost. 11; tip of bill to center of pupil, 75;

to occiput, 112; bare tibia 28; tars., 77; Mte., 78; Mt., 68; claw, 10.5; humus + claw, 17; claw of hallux, 6. height of bill at extreme base, 29; width, height at frontal feathers, 23; at nostrils, 19; width at base, 24. width in front of nostrils, 19. Irides brown. Bill less, feet and claws plumbeous black.

4404 Aythya valisineria ♂ ad. 570; 895; 245; 72; cul. from frontal feathers, 65; from extreme base, 78; nost., 39; gape, 70; height of bill at base, 31; width, 22; tip of bill to center of pupil, 94; to occiput 130; bare tibia, 13; tars., 47; Mte., 79; Mt., 70; claw, 10; hallux and claw, 25; claw of hallux, 7. Iris, red. Bill, neutral tint, the nail on mandible and spotting on ramus reddish brown. The feathers of the extreme front of chin, is white. Legs and feet, greenish gray; webs and claws, dusky.

4405 Mareca americana ♀ ad. 465; 815; 260; 104; cul. from frontal feathers, 36; from nostril, 27; gape, 41; height of bill at base, 17; width, 17; tip of bill to center of pupil, 61; to occiput, 84; bare tibia, 15; tars., 35; Mte., 48; Mt., 41; claw, 7; hallux + claw, 12; claw of hallux, 4. January, 15th 1886. Ft. Verde, Ariz.

4406 Bubo virginianus subarcticus ♀ ad. 525; 380; 215; cul. + cere, 42; cere, 18; cul., 29; gape, 47; tip of bill to center of pupil, 54; to occiput, 95; tars., 60; Mt., 50; Mte., 70; claw, 28; hind claw, 23; inner claw, 30; outer claw, 25. Stomach cont. half doz. Kangaroo Rats.

4407 Merula migratoria propinqua ♂ ad. 267; 447; 150; 118; nost., 13.5; gape, 28; tars., 35; Mte., 30; Mt., 23; cl., 8.

4408 Merula migratoria propinqua ♂ ad. 265; 423; 139; 113; nost., 14; gape, 27.5; tars., 35; Mte., 30; Mt., 23; claw, 8. Irides hazel. Bill yellow tipped with black. Tarsi, feet and claws dusky brown. Soles and heel yellowish.

4409 Astragalinus psaltria ♂ ad. 112; 203; 66; 44; cul., 9; gape, 9; tars., 12; Mte., 13; Mt., 10; cl., 4.

January 18th 1886. Ft. Verde, Ariz.
The three Mc Cowen Longspurs were associating with a flock of Shore Larks, five of which were killed at the same shot.

January 18th 1886. Ft. Verde, Ariz.

4410 Rhynchophanes macrourus ♂ ad. 155; 297; 95; 62; cul., 11.5; gape, 13; tars., 21; Mte., 17; Mt., 13; cl., 5. hind toe + claw, 15; hind claw, 8.

4411 Rhynchophanes macrourus ♂ ad. 162; 298; 96; 64; cul., 12; gape, 14; tars., 21; Mte., 19; Mt., 13.5; claw, 5.5; hte., 16; hind claw, 8; tip of bill to center of pupil, 17.5; to occiput, 30.

4412 Rhynchophanes macrourus ♂ ad. 153; 286; 91; 57; cul., 12; gape, 13; tars., 19.5; Mte., 17.5; Mt., 13; cl., 5; hte., 16.5; cl., 9.5.

4413 Cremophila alpestris ^{arenicola (fide Dwight)} chrysolaema ♀ ad. 172; 320; 103; 71; cul., 12.5; nost., 9; gape, 15; tars., 21; Mte., 19; Mt., 12; claw, 7.5; hallux + claw, 19; claw, 12.

4414 Cremophila alpestris ^{arenicola (fide Dwight)} chrysolaema ♂ ad. 183; 330; 106; 74; cul., 12.5; nost., 9; gape, 16; tars., 22; Mte., 17; Mt., 12.5; claw, 6; hte., 20; claw, 13. Length of ear tufts, 13.

4415 Cremophila alpestris ^{arenicola (fide Dwight)} chrysolaema ♂ ad. 180; 327; 106; 75; cul., 12; nost., 9; gape, 16; tars., 22; Mte., 19; Mt., 12.5; cl., 7; hte., 20; claw, 13.

4416 Cremophila alpestris ^{arenicola (fide Dwight)} chrysolaema ♂ ad. 186; 340; 111; 80; cul., 13; nost., 9; gape, 16; tars., 20; Mte., 19; Mt., 13; cl., 6; hte., 18.5; claw, 11.5.

4417 Cremophila alpestris ^{arenicola (fide Dwight)} chrysolaema ♂ ad. 183; 333; 109; 77; cul., 13; nost., 9.5; gape, 16; tars., 21; Mte., 19; Mt., 11.5; claw, 7.5; hte., 19; claw of hte., 12.

4418 Cremophila alpestris ^{adusta (fide Dwight)} chrysolaema ♂ 179; 325; 106; 75; cul., 13; nost., 9; gape, 16; tars., 23; Mte., 19; Mt., 12; claw 7; hte., 17; claw, 10.

4419 Cremophila alpestris ^{adusta (fide Dwight)} chrysolaema ♂ ad. 181; 327; 108; 77; cul., 13; nost., 9.5; gape, 16.5; tars., 19; Mte., 18; Mt., 11; claw, 7.5; hallux + claw, 20.5; claw, 13.5; tip of bill to center of pupil, 21; to occiput, 34.

4420 Cremophila alpestris ^{arenicola (fide Dwight)} chrysolaema ♂ ad. 176; 323; 105; 72; cul., 13; nost., 9; gape, 16; tars., 22.5; Mte., 19; Mt., 13; cl., 7; hte., 18; claw, 11.5.

4421 Cremophila alpestris ^{arenicola (fide Dwight)} chrysolaema ♀ ad. 184; 335; 111; 79; cul., 12; nost., 9; gape, 16; tars., 20.5; Mte., 18; Mt., 12; claw, 6.3; hte., 17; claw, 10.

4422 Cremophila alpestris ^{arenicola (fide Dwight)} chrysolaema ♂ ad. No measurements.

- 4423 *Cremophila alpestris chrysolaema* ♂ ad. ^{aremicola fide Dwight.} 189; 342; 112; 81; cul., 12; nost., 9; gape, 16; tars., 22; Mte., 19.5; Mt., 13; cl., 7; hte., 20; claw 12.5.
- 4424 *Cremophila alpestris chrysolaema* ♂ ad. ^{aremicola fide Dwight.} 185; 332; 109; 76; cul., 13; nost., 9; gape, 15.5; tars., 20; Mte., 18; Mt., 12; cl., 6; hte., 17; claw, 10.
- 4425 *Cremophila alpestris chrysolaema* ♂ ad. ^{aremicola fide Dwight.} 187; 340; 111; 80; cul., 13; nost., 9.5; gape, 16.5; tars., 22; Mte., 19; Mt., 12; cl., 7; hte., 20; claw, 13.
- 4426 *Cremophila alpestris chrysolaema* ♂ ad. ^{aremicola fide Dwight.} 177; 329; 108; 74; cul., 12; nost., 9; gape, 15.5; tars., 21.5; Mte., 18; Mt., 12.5; cl., 6; hte., 17; claw, 10.
- 4427 *Cremophila alpestris chrysolaema* ♂ ad. ^{aremicola fide Dwight.} 190; 338; 113; 82; cul., 13; nost., 10; gape, 17; tars., 21; Mte., 18.5; Mt., 12; cl., 7; hte., 19.5; claw, 13.
- 4428 *Cremophila alpestris chrysolaema* ♀ ad. ^{aremicola fide Dwight.} 173; 315; 108; 70; cul., 12; nost., 8; gape, 15; tars., 22; Mte., 17.5; Mt., 12.5; claw, 5.5; hte., 19; claw, 11.5. In all of the above specimens the sides are dark brown or hazel. The bill is bluish at base, above shading to plumbeous black, the greater portion of the mandible being pale bluish and tipped with plumbeous-black. The tarsi feet and claws are dusky plumbeous, perhaps coming as near neutral tint as anything. Sexes colored alike, as to bill, legs and feet.

4429 *Mergus merganser americanus*, ♂ ad., imperfect plumage. Description!

Color. Head and upper part of neck all around, ^{with} very dark green, changing to purplish black upon chin and throat. Fore part of back and inner scapulars, uniform glossy black. Wings black + white. Remainder part of back, rump, upper tail coverts and rectrices, ashy gray. Remainder of plumage, including the lower part of neck ^{sides and} under surface of body, including tail coverts and most of the lining of the wings, white, beautifully tinted with salmon. Sides, purplish brown. Bill, vinaceous red upon sides, with dusky markings ^{up} above, below and at tip. Legs and feet, vermilion or coral ^{insert.} Wing, with

The false wing all of the primaries and their coverts, ~~outer shafts of the~~ outer vanes of the four outer secondaries and their great coverts throughout, a narrow line along the outer border of tertials, the bases of the great coverts of the middle secondaries, all of the humeral part of wing, and its anterior border, black. Residue, white or creamy white. When the wing is folded, the black humeral portion being concealed by the white outer scapulars, it appears white, edged with black below, with a single bar formed by the black bases of the middle great coverts, delicately lined with black along the ~~tertiary~~ ^{with some spotting of the same at the carpal joint.} ~~tertiary~~. The wing is black at base and externally, with a broad intervening band of white crossed by a black bar, forming the exposed portion when folded. Upon the sides, under the wing, are barely perceptible indications of wavy bars or vermiculations of grayish, which become more pronounced upon the longest feathers of the flanks, covering the outer surface of the tibia. The sides of the rump, stibial and a few of the longest under tail coverts, upon the outer webs, are vermiculated with gray on a whitish ground. The salmon color is nearly uniform upon the lower surface, fading to nearly white upon the sides and neck and imparting a creamy tinge to the outer scapulars, tertials and middle secondaries ^{axillars} and lining of wings. The velvety black of the fore part of the back, is produced forwards in the median line, where as along the edges some of the feathers are vermiculated black and white.

Dimensions.

Length to tip of claw of outstretched leg, 680; (end of longest claw even with the tip of the tail). 660; 955; 282; 130; cul. from frontal feathers, 58; from extreme base, 68; nost., 36; gape, 75; height of bill at base, 20; width at edge of lateral feathers, 16; tip of bill to center of pupil, 83; to occiput, 125; bare tibia, 13; tars., 51; Mte., 72; Mt., 63; claw, 9.5; hte., 16; claw, 6. The tip of the outer claw, falls barely short of that of the middle, while the

tip of the inner claw does not reach the base of the middle one by 5 m.m.

January 20th 1886.

4430 *Parus montanus* ad. 136; 220; 72; 69; cul., 10.5;

nostr., 8; gape, 12; tars., 20; Mte., 15; Mt., 11; claw, 5;

4431 *Scolecophanes mollweberi* ♂ ad. 149; 237; 75; 65;

cul., 12; nostr., 9.5; gape, 13.5; tars., 21; Mte., 19; Mt., 13; cl., 6.

Irides, hazel. Bill, dusky plumbeous, tarsi & feet plumbeous. claws, dusky plumbeous. Description: Above, olivaceous

ashy, most olive above the rump, paler almost whitish below and very faintly washed with brownish olive posteriorly and upon the sides.

Nasal tuft and adjacent feathers, white. Sides of head whitish, obscurely barred. The fourth, fifth and sixth primaries are the longest. *Largest measures 20 m.m.

The fourth & sixth are about equal slightly exceeded by the fifth. The first a little more than half as long as the second. The rectrices decurved, the lateral slightly shorter than the middle.

4432 *Pipilo maculatus megalonyx* ♂ ad. Type specimen. Irides, bright red. Bill, both maxilla blackish, mandible dusky plumbeous. Legs, feet and claws, light brown. Head and neck all around and fore part of breast, plain black. ~~Inner secondaries~~. Wings, scapulars and interscapular region of back black, with elongated white spots, occupying chiefly the outer webs of the feathers. The hinder part of back, rump and ~~under~~ tail coverts, having a faint ~~olivaceous~~ cast ^{of ash brown}. The upper tail coverts faintly edged with ~~the same~~ ^{black} line. The rectrices are black, the four outer ~~top~~ having white tips, decreasing in amount toward the central pair, and occupying more of the inner than of the outer webs, although the lateral feathers are white nearly to the base upon the outer web.

~~the same~~ ^{chestnut} Sides, ~~the same~~ ^{black} ~~the same~~ ^{black}. Under tail coverts, fulvous brown, breast & abdomen, white. Wings, with the second to fifth primaries conspicuously edged with white, upon the middle of the

Legs, white washed with fulvous and spotted with black upon the outer side of tibia, above the heel.

outer webs, as are the innermost secondaries at tip. The greater and median coverts to secondaries tipped with white upon the outer webs, as are the exposed portions of the outer webs of the scapulars. Lining of wings faintly washed with fulvous

Dimensions. ♂ 221; 290; 92; 109; cul., 14; gape, 16.5;

height of bill at base, 10; width, 8; tip of bill to center of pupil, 21.5; to occiput, 36; base of bill to occiput, 26;

tars., 28; Mte., 27.5; Mt., 20; claw, 8; hte., 22; ~~claw~~, ht., 10; claw, 12.

4433 *Myiadestes townsendi* Type sp. ♀ ad. 220; 348; 115; 108; cul. 12;

nostr., 7; gape, 19; height of bill at nostril, 4.5; width at base, 10; from tip of bill to center of pupil, 23; to occiput, 35; from base of bill to occiput, 25; tars., 21; Mte., 21; Mt., 15; claw, 6.2;

hte., 14; h, 8; hcl., 6.5. — Description. Tail, rather deeply forked and rounded on either side, the tip formed by the third and fourth rectrices. General color ashy, some what paler below. Lining of wings

ash ~~but the longest under coverts creamy white~~. Wings and tail darker. Chin & frontal feathers obscurely whitish and a white circle around the eye. Under tail coverts with broad white edges. Axillars and lining of wings ashy, but the longest under coverts, white. Wings ashy brown

the tertials edged with white externally. All of the quills broadly barred with brownish yellow near the base, except the outer primaries and inner tertials, forming a ~~conspicuous~~ ^{broad} band above, when the wing is extended, but much broader beneath and conspicuous in flight. This light band succeeded by a dusky one, formed by the blackish bars upon the outer webs of the quills and succeeded by a light ashy edging tinged with the color of the basal bars. Tail very dark brown, the central feathers more so. The back, the three lateral feathers tipped with white, decreasing in amount toward the center. Outer web of

feathers
lateral, white nearly throughout. Sides, hazel. Bill, black, tarsi feet + claws brownish black.

4434 *Sitta carolinensis aculeata* ad. 154; 279; 89; 55; cul., 20.5; rostr., 15; gape, 24; tars., 18; mte., 22; mt., 16; cl., 7; hte., 22; claw, 10.

4435 *Carpodacus cassinii* ♀ ad. 169; 284; 96; 70; cul., 13; gape, 15; tars., 16.5; mte., 20; claw, 7. Feet affected by disease resembling elephantiasis.

4436 *Junco h. shufeldti* ♂ ad. 157; 252; 80; 75; cul., 11; gape, ~~12.5~~ 12.5; tars., 20; mte., 19; mt., 14; claw, 5.2.

4437 *Zonotrichia intermedia* ♂ juv. 176; 253; 80; 78; cul., 11; gape, 12; tars., 23; mte., 22; claw, 6.

4438 *Pipilo fuscus mesoleucus* ♀ ad. 225; 300; 95; 113; cul., 16; gape, 16; tars., 25; mte., 27; cl., 8.

4439 *Pipilo fuscus mesoleucus* ♂ ad. 225; 300; 96; 113; cul., 16.5; gape, 17; tars., 26; mte., 26; claw, 8. Sides, light reddish brown. Bill with maxilla dusky olive. Mandible flesh color at base shading to plumbeous. Tarsi, feet and claws, brown.

January 21st 1886.

4440 *Carpodacus frontalis* ♂ ad. Description. Type Specimen. Forehead, and superciliary stripes extending backward to the occiput, and tending to become confluent across the ^{cheeks,} nape, chin, throat and breast and rump, rose scarlet. General color above, including wings, tail and upper coverts, grayish brown, tinged with red upon the crown, nape, back and ^{lesser} wing coverts, the feathers having darker centers; the quills with whitish edging. The greater and middle wing coverts with broader whitish edging, forming transverse ring bars. ^{Body} Below, creamy whitish posteriorly, the feathers with dark brown central stripes, rose tinted anteriorly, yellowish in the median line. Axillars and lining of wings, grayish white, with somewhat darker centers and rose tinted. Sides, ^{dark} hazel; Bill, olive brown above, paler beneath. Tarsi, feet + claws, dark brown. Tail, even.

Dimensions. 160; 267; 84; 69; cul., 10; gape, 12; height of

bill at base, 9.5; width, 8.5; tip of bill to center of pupil, 17; to occiput, 29; from base of bill to occiput, 22; tars., 18; mte., 19; mt., 14.5; claw, 5.5; hte., 13; claw, 6.

4441 *Ceremophila alpestris* ^{argyroloma} ~~argyroloma~~ ♂ ad. Type Specimen. Description. General color above, pinkish brown, the pinkish tint brightest on the nape, lesser and median coverts, false wing and upper tail coverts. The remiges more cinnamon. The middle of the back, tertials and central rectrices brown more fulvous with dusky centers. Under parts from the breast backward, except the sides which are washed with the color of the upper parts, white, as are the axillars and the lining of the wings. Tail, except the central rectrices, black, the ^{two} lateral feathers edged with white externally, the outermost for two thirds of its extent. Outer primary edged with white and middle secondaries tipped with the same - wing coverts with grayish edging. Head with a frontal line prolonged over the eyes, whitish, yellowish in front succeeded by a crescentic black patch prolonged backward laterally and produced into elongated ~~tufts~~ tufts, the feathers with faint drab edging. A black ^{line} ~~band~~ ^{from} the nostrils along the lower, thence curving below the eye and widening as it descends in front of the auriculars. The auriculars banded posteriorly with fuscous, the rest of the sides of the head, ~~chin~~ ^{throat} whitish. The chin throat and upper part of the neck sulphureous yellow. Jugulars with a broad crescentic patch of black, the feathers slightly obscured by the whitish edging. Breast with a faint pinkish suffusion and very obscure dusky spotting. Bill, plumbeous black, bluish at base of mandible. Tarsi feet + claws neutral tint. Dimensions. - 184; 332; 105; 73;

cul., 13; nostr., 9; gape, 16.3; height of bill at base, 5; width, at gape, 8; tip of bill to center of pupil, 20.5; to occiput, 34.5; from base of bill to occiput, 33; length of head tufts, 15; tars., 21; mte., 18.5; Mt., 12; claw, 6.5; hte., 18; claw, 11;

January 22nd 1886. Ft. Verde, A.T.

During the past week we have had long heavy rains. The rainfall in the valley was inches while upon Grief Hill 1500 feet above us (5000 feet) where it rained continuously the rainfall amounted to 5 inches. The River overflowed its banks and drowned many of the beavers, out of their holes in the banks. For a night or two they acted perfectly wild, and could be seen everywhere along the Verde, where several were shot.

4442 Rhyacophanes maccouni. ♀ ad. 148; 275; 96; 5.5; cul., 10; gape, 12.5; height at base, 8; width, 8; tarsus, 18; mte., 16; cl., 4.

4443 Sturnella neglecta ♂ ad. 256; 423; 126; 83; cul., 34; gape, 35; tarsus, 40; mte., 35; cl., 9.

4444 Sturnella neglecta. ♂ ad. 256; 420; 126; 82; cul., 34; gape, 36; tarsus, 39; mte. 35; cl., 9.

4445 Hylocichla unalaschkae ♂ ad. 175; 280; 92; 73; cul., 14; nostril, 9.5; gape, 20.5; tars., 29; mte., 21.5; cl., 6.

4446 Zonotrichia intermedia ♀ ad. 172; 256; 80; 80; cul., 11; gape, 11; tarsus, 22; mte., 21; cl., 5.5.

4447 Empidonax alpestris arenigla (fielding) ♂ ad. 188; 338; 107; 110; 80; cul., 13; nostril, 12; gape, 16; tarsus, 22; mte., 19.5; mt., 13; cl., 7; hte., 21; cl., 14.

4448 Mergus mercanser americanus. ♀ ad.

Description. The parts of the head and neck, which in the male, are dark green, are chestnut brown, paler and more reddish in the area below the eye. The chin + throat which in the male are black, are white. The white upon the wings is confined to the exposed portion of the inner secondaries and their great coverts which latter are barred with black at base and have each a faint spot at tip which in some specimens is produced into

a bar. The four outer secondaries, their great coverts, the pale wing and ~~residue of end of wing~~ ~~carpal joint~~, blackish. Residue of wing including tertials and entire dorsum the entire upper surface of the body ashy gray, as are the sides. The tertials and inner portion of lining of wing, white, the lining of the outer portion, dark gray with white edges to the feathers. Under surface of body yellowish white. The gray color of the dorsum extends ^{forward} anteriorly and joins the chestnut of the head. Irides reddish hazel bill, plumbeous black above, dull reddish upon the sides, bright carmine on the ramus of mandible. Tarsi and feet dull reddish orange with dusky webs and claws.

Dimensions. 670; 925; 275; 120; cul. from frontal feather, 54; from extreme base, 69; from nostril, 36; gape, 75; tip of bill to center of pupil, 85; to occiput, 128; base of bill to occiput, 70; bare tibia, 13; tars., 54; mte., 77; Mt., 67; claw, 10.5; hte., 17; cl., 6. Head with a long, compressed occipital crest. Gullet filled with small fishes.

Note on Felis concolor. Mr. Isaac Lotman who owns a ranch on Sycamore Creek, 15 miles southeast of Fort Verde, told me that a few weeks ago he heard a calf bleating, and rode to the spot, where he found two lions. One of them seized the calf which was two months old raised it high in air with his powerful jaws and ran off with it out of sight. The track was followed for a mile without coming to the dead calf. The second lion "bristled up and looked cassy" but ran away when a charge of fire shot was lodged along his side. (over)

On another occasion a Lion was met in the trail, that seemed to want to stand its ground, but a charge of shot caused its flight. This gentleman also states that in Nevada, where game and food was scarce, a hungry Lion came to his mining camp and ran him into his hut. He was unprovided with arms of any sort.

Once, when hunting deer, between Verde and Prescott, he was resting beneath a ledge along the face of a rocky butte, and looked up and saw a Lion watching as if intending to spring upon him from above. He killed it with his carbine without difficulty.

Lions are very abundant about his ranch and stock range. He once found a 2-year-old heifer of Mr. W. Head's that they had killed and covered up with all the brush, and stones they could gather for some distance around. He poisoned the carcass with strychnia, and yesterday sent his brother up to see if there were any dead Lions, but his brother had not returned when he left home to come up to the Post.

Note on Castor fiber Canadensis: One day, about a year ago, being desirous of obtaining a handsome section of a cottonwood tree bearing the marks of the Beaver, I selected an immense cottonwood, which they had cut two-thirds through and which showed well the marks of their teeth, and their intention and ability to fell a tree in a particular direction. Col. Clendenin, commanding this post, kindly allowed me to take a large cross-cut double hand saw, and the Provost Sergeant with his cart and two men. The tree proved to be larger than I supposed, and we were unable to saw it down.

A good deal of heavy cottonwood had been cut down by the beavers in the vicinity. I took the following measurements of beaver-trees, measuring the trunk above the cutting. One or two of them were still standing, nearly cut through, but all have since been felled by the Beavers and carried away by them with the exception of the heaviest trunks from which all the branches were gnawed.

Measurements of Beaver-Trees.

31 1/2	inches	Verde River.	Cotton-wood tree.
21 1/2	"	"	"
55 1/2	"	"	"
36	"	"	"
87 1/2	"	"	"
89	"	"	"

(Notes obtained from Capt. Bourke when in the field.)

Indians of Arizona. Estimated population 35,000.

- Apache Tonto
- White Mountain
- Warm Spring or Chiricahua
- Navajo.
- Moguis.
- Yumas
- Chimahuari
- Cocopah
- Leeeros
- Yonig East there are the
- Opatas of Sonora, Mexico.
- Papagos
- Pimas
- Manicopas
- Navajo
- Utes (Extreme N.E. of Arizona).
- Puites (Extreme N.W. of Arizona)
- Avadupais or Ah-Supais. Cataract Creek.

January 27th 1886. Ft. Verde, A.T.

- 4449 *Sialia arctica* ♀ ad. 181; 343; 116; 75; cul., 15; noot., 10; gape, 21; tars., 22; Mte., 21; Mt., 15; claw, 6.
- 4450 *Sialia arctica* ♀ ad. 179; 337; 113; 71; cul., 14; noot., 10; gape, 21; tars., 23; Mte., 21; Mt., 15; claw, 6.2.
- 4451 *Sialia arctica* ♂ ad. 187; 353; 120; 80; cul., 15; noot., 10; gape, 21; tars., 21; Mte., 21; Mt., 15; claw, 6.
- 4452 *Sialia arctica* ♂ ad. 191; 359; 123; 80; cul., 15; noot., 10; gape, 22; tars., 22.5; Mte., 21.5; Mt., 16; claw, 6.
- 4453 *Sialia arctica* ♂ ad. 183; 346; 118; 76; cul., 14; noot., 9.5; gape, 20; tars., 21; Mte., 21; Mt., 15.2; claw, 6.
- 4454 *Sialia arctica* ♂ ad. 189; 350; 120; 80; cul., 14.5; noot., 9.5; gape, 21; tars., 23.5; Mte., 22; Mt., 16; claw, 6.
- 4455 *Sialia arctica* ♂ ad. 187; 355; 124; 79; cul., 15; noot., 10; gape, 21; tars., 23; Mte., 22; Mt., 16; claw, 6.
- 4456 *Sialia arctica* ♂ ad. 184; 349; 117; 76; cul., 14; noot., 9; gape, 21; tars., 22.5; Mte., 21; Mt., 15.5; claw, 5. Sides, dark hazel, bill, legs, feet and claws, black. *Serys aliko.*

January 28th 1886. Ft. Verde, A.T.

- 4457 *Sialia arctica* ♂ ad. Shot by Mrs E.A. Mearns upon the wing, with the little pistol-shotgun. 187; 357; 123; 76; cul., 14; noot., 9.5; gape, 21; tars., 22.5; Mte., 22; Mt., 16; claw, 6; hte., 14; claw, 7. tip of bill to center of pupil, 23; to occiput, 37; base of bill to occiput 24. General color greenish azure-blue; the belly, and sides behind thighs and under tail coverts, white. The longest under tail coverts, blue with white edges. The blue is brightest above, more greenish upon the neck & breast. Above there are faint rufous edgings, the feathers of the head and back are faintly edged with rufous. The wings, rump upper tail coverts & rectrices, clear blue, the quills with dusky tips & faint white edging. The lining of the wings is like the breast, which latter the feathers of the breast are faintly edged

with amber brown - the chin somewhat paler. Sides hazel, bill, legs, feet and claws black.

- 4458 *Sialia arctica* ♂ ad. shot by Mrs Mearns with the little gun. 185; 355; 120; 77; cul. 15.5; noot., 10; gape 22; tars., 23; Mte., 21; Mt., 15; claw, 6.2.
- 4459. *Sialia arctica* ♂ ad. 185; 350; 118; 78; cul., 14; noot., 8; gape, 19; tars., 20.5; Mte., 21; Mt., 16; claw, 5.5.
- 4460. *Sialia arctica* ♂ ad. 187; 356; 122; 77; cul., 15; noot., 10; gape, 22; tars., 22; Mte., 22; Mt., 16; claw, 6.2.
- 4461 *Sialia arctica* ♀ ad. 186; 344; 116; 73; cul., 14; noot., 10; gape, 21; tars., 22; Mte., 21.5; Mt., 16; claw, 6.
- 4462 *Merula migratoria propinqua* ♀ ad. 265; 420; 140; 109; cul., 22; noot., 12; gape, 28; tars., 34; Mte., 30; cl. 7.5.
- 4463 *Merula migratoria propinqua* ♀ ad. 260; 420; 140; 110; cul., 23; noot., 14; gape, 30; tars., 34; Mte., 30; claw, 8.
- 4464 *Merula migratoria propinqua* ♂ ad. 271; 444; 145; 114; cul., 23; noot., 13; gape, 30; tars., 34; Mte., 30; claw, 8.
- 4465 *Merula migratoria propinqua* ♂ ad. ^{sex positively determined} 255; 410; 135; 106; cul., 22; noot., 13; gape, 27; tars., 31; Mte., 28; claw, 7.
- 4466 *Pipilo aberti* ♂ ad. 239; 303; 96; 120; cul., 16; gape, 17; tars., 31; Mte., 28; Mt., 19; claw, 9.
- 4467 *Agelaius phoeniceus* ♂ ad. 335; 400; 129; ⁽⁹⁹⁾ 89; cul., 21; gape, 22; tars., 29; Mte., 32; Mt., 23; claw, 9.5.
- 4468 hte., 22; claw, 11.

January 29th 1886. Ft. Verde, A.T.

- 4468 *Carpodacus frontalis* ♂ juv. Front and breast brick-red. 151; 246; 80; 167; cul., 11; gape, 11; tars. 16; Mte. 20; cl. 5.5.
 - 4469 *Merula migratoria propinqua* ♀ ad. 262; 418; 134; 110; cul., 22; noot., 13; gape, 30; tarsus, 33; Mte., 31; cl. 7.
- Note. - Lizards were seen sunning about; and red ants were first seen on January 28th, 1886.

January 30th, 1886 Ft. Verde, A.T.

No. 308. Tamias harrisi ♂ ad. When shot, it was sunning itself at the mouth of its burrow in the face of a clay bluff, beside the Verde River. Total length, 260; Head and body to lateral axis, 165; Tail to end vert., 80; to end hairs, 104; width, 45; Ears above crown, 7; above notch, 12; width, 12. Tip of nose to eye, 17; to centre of pupil, 21.5; to ear, (34); to meatus, 35; to tip of ear, 44; to occiput, 43; to end of outstretched hind foot, 245; Distance between eyes, 18; Culicet grith (94); Manus, 24; Pes, 40; Fore leg, 50; Hind leg, 70; Fore cl., 5.5; Hind cl. 5.5; Fore limb from head of acromian process, 70. Hind limb from head of femur, 93; Lebeck pouches contained

44 Mesquite seeds, in bulk just a thimbleful. Testicles largely developed, measuring 35 x 11 m. m.

4470. Scolecophagus cyanocephalus ♂ ad. Shot in our yard with bill pistol-shotgun. 253; 418; 135; 109; cul., 21.5; gape, 25; tars., 32; mte., 30; mt., 23; claw, 7.

4471. Scolecophagus cyanocephalus ♀ ad. 240; 375; 123; 100; cul., 20; gape, 23; tars., 28; mte., 27; mt., 20; claw, 7. ~~Bill~~

4472. Sayornis sayi ♂ ad. 198; 334; 107; 88; cul., 19; nostr., 12; gape, 23; tars., 20; mte., 17; mt., 11.5; claw, 6.

4473. Pipilo aberti ♂ ad. 240; 300; 97; 124; cul., 17; gape, 17; tars., 30; mte., 29; ~~claw, 9;~~

4474. Sialia mexicana ♀ ad. 170; 322; 109; 70; cul., 13; nostr., 8; gape, 20; tars., 21; mte., 21; claw, 6.

4475. Sialia mexicana ♂ ad. 171; 325; 110; 70; cul., 13.5; nostr., 8.2; gape, 20; tars., 20; mte., 19.5; claw, 6.

4476. Sialia arctica ♂ ad. 188; (352); 118; 75; cul., 16; nostr., 10.5; gape, 23; tars., 24; mte., 22; claw, 6.

4477. Agelaius phoeniceus ♂ ad. 240; 400; 129; 102; cul., 21.5; gape, 22; tars., 29; mte., 29; claw, 8.5.

4478. Merula migratoria propinqua ♀ ad. 268; 423; 140; 113; cul., 22; nostr., 13; gape, 29; tars., 33; mte., 30; cl., 7.

4479. Merula migratoria propinqua ♂ ad. 255; 423; 139; 108; cul., measured to tip of under mandible, 23; to tip of maxilla, 20; nostr. to tip of mandible 15; to tip of maxilla 12.5; gape (right side) to tip of maxilla, 28; to tip of mandible, 30; tars., 32.5; mte., 28; cl., 6. The bill is deformed. The mandibles twisted toward the left side especially the maxilla. Plumage much worn, the bird having evidently passed by the last molt.

4480. Merula migratoria propinqua ♀ ad. 262; 413; (138); 105; cul., 24; nostr., 15; gape, 32; tars., 34; mte., 29; claw, 6.

4481. Anas boschas ♂ ad. 590; 940; 275; 107; cul. from frontal feathers, 55; from extreme base, 67; from nostr., 43; gape, 67; height of bill at base, 26; width, 22; tip of bill to center of pupil, 90; to occiput, 124; bare tibia, 15; tars., 46; mte., 60; mt., 53; claw, 8; hallux + claw, 17; claw of hallux, 5.

4482. Aythya vallisneria ♀ ad. Beaver Creek, A.T. 550; 840; 230; 73; cul. from frontal feathers, 58; from extreme base, 68; from nostr., 37; gape, 62; height of bill at base, 27; width, 21; tip of bill to center of pupil, 85; bare tibia, 15; tars., 45; mte., 80; mt., 71; claw, 10; hallux + claw, 25; claw of hallux, 5.5.

4483. Aythya vallisneria ♀ ad. 530; 840; 221; 71; cul. from frontal feathers 57; from extreme base, 68; from nostr., 35; gape, 62; height of bill at base, 27; width, 21; tip of bill to center of pupil, 84; to occiput, 125; ~~from~~ frontal feathers to occiput, 60; bare tibia, 14; tars., 45; mte., 79; mt., 70; claw, 9; hallux + claw, 24; claw of hallux, 6.

4484. Aythya vallisneria ♀ ad. 535; 845; 128; 71; cul. from frontal feathers, 60; from extreme base, 71; from nostr., 36; gape, 65; height of bill at base, 30.5; width 22; tip of bill to center of pupil, 87; to occiput, 127; frontal feathers to occiput, 60; bare tibia, 16; tars., 45; mte., 76; mt., 69; claw, 8; hallux + claw, 24; claw of hallux, 5.

This last specimen differs from the two preceding in having a dark breast, the feathers merely edged

with whitish, while the others are nearly pure white. Before skinning it I supposed it was a young male, as the rusty color of the throat and also much darker than in the others; but all proved on dissection to be females.

4485. Fulix affinis ♀ ad. 433; 710; 197; 70; cul. from frontal feathers, 44; extreme base, 52; from nostr., 30; gape, 50; height of bill at base, 21; width below nostrils, 19; tip of bill to center of pupil, 68; to occiput, 95; frontal feathers to occiput, 50; bare tibia, 11; tars., 35; Mte., 61; Mt., 55; claw, 6; hallux and claw, 17; claw of hallux, 4.5. Irides, brownish yellow. Bill plumbeous black, with a sub-terminal blue band and purplish brown markings on rami & tip below. Legs & feet greenish gray. Nests and joints, dusky, claws, black.

Nos. 3753 ♀ ad and 3754 ♂ juv. marked as F. Marila are evidently of this species.

4486. Mareca americana ♂ ad. 540; 875; 270; 125; cul. from frontal feathers, 39; from extreme base, 47 (the frontal process of the bill in this species, is almost entirely concealed by the feathers); from nostr., 29; gape, 46; height of bill at base, 20; width, 18; tip of bill to center of pupil, 68; to occiput, 97; frontal feathers to occiput, 55; bare tibia, 13; tars., 45; Mte., 53; Mt., 46; claw, 7.5; hallux and claw, 16; claw of hallux, 4.5.

Irides, dark reddish hazel. Bill with mandible and maxilla at base and tip, black; middle zone of bill above, blue. Legs & feet grayish olive with dusky webs & blackish claws. From a very fine specimen.

4487. Mareca americana ♀ ad. fine plumage 785; 820; 247; 108; cul. from frontal feathers, 35; from extreme base, 44; from nostr., 26; gape, 42; bare tibia 14; tars., 40; Mte., 54; cl. 8.5.

4488. Anas boscae ♂ ad. 620; 960; 280; 105; cul. from frontal feathers 56; from extreme base, 66; from nostr., 42; gape 66; height of bill at base 24; width, 21; tip of bill to center of pupil 90; to occiput, 120; frontal feathers

to occiput 62; bare tibia 17; tars., 48; Mte., 65; Mt., 55; claw, 9; hallux + claw, 19; claw of hallux, 6.

4489. Anas boscae ♀ ad. 550; 920; 266; 105; cul. from frontal feathers, 51; from extreme base, 61; from nostr., 38; gape, 60; height of bill at base, 22; width, 20; tip of bill to center of pupil, 81; to occiput, 110; frontal feathers to occiput, 56; bare tibia, 16; tars., 42; Mte., 57; Mt., 50; claw, 8; hallux and claw, 16; claw of hallux, 5.

4490. Anas boscae ♀ ad. 555; 895; 262; 92; cul. from frontal feathers, 51; from extreme base 61; from nostril, 39; gape, 61; height of bill at base, 22; width, 20; tip of bill to center of pupil, 80; to occiput, 113; frontal feathers to occiput, 62; bare tibia, 13; tars., 44; Mte., 62; Mt., 52; cl., 9.5; hallux + claw, 19; claw of hallux, 5.5.

4491. Cyrtorhynchus montezumae. ♂ ad. 240; 445; 131; 66; cul., 14; nostr., 9; gape, 16; height of bill at base, 10; width, 13; tars., 29; Mte., 37; Mt., 26; claw, 13.5. Crop contained grass, across from which the shells had been removed and a black beetle shequered with bright red.

February 2nd 1886.

4492. Cyrtorhynchus montezumae ♂ ad. Type specimen. Length to end of claws, 303; the toes extend about 50 mm. beyond the tail. 255; 440; 128; 70; cul., 15; nostr., 9; gape, 16; height of bill at base, 10; width, 12; tip of bill to center of pupil, 23; to occiput, 40; from base of bill to occiput, 29; length of occipital crest, 30; tars., 31; Mte., 35; Mt., 24; claw, 12.5; outer toe, 20.5; claw, 10; web between it & middle toe, 5; orb between middle & outer inner toe, 5.3; inner toe, 16; claw, 11; hallux and claw, 13; claw of hallux, 6; hallux alone, 8.

Diagnosis. Irides, very dark hazel. Bill, with sides of maxilla at base and mandible, blue, residue of

maxilla, blue-black. Tarsi and feet, light bluish gray, claws horn color, the ~~outer~~ ^{of outer toe} claw extends one third the length of middle claw beyond its base. The inner but ^{not} beyond its base.

General color above, vinaceous brown, most of the feathers with whitish central stripes. Central area of breast, dark chestnut brown. ~~Abdomen~~ ~~hind~~ ~~parts~~, plain black. Sides of ~~the~~ ~~flanks~~ dead color spotted with white. Wing coverts spotted with black on a grayish ground. Head with peculiar markings of black white lead color + ^{ashy} ~~grayish~~ ^{fulvous}.

Description. The complex markings of this handsome species, make an accurate description difficult.

The plumage is barred and streaked above, except upon the wing coverts, which are spotted in double series, as are the flanks side of the breast and neck. The ~~hind~~ ~~parts~~ ^{including legs, thighs & under tail coverts,} are ~~jet black,~~ ^{preceded} ~~by~~ ^{succeeded by} narrow chestnut ~~stripes~~ ^{streaks}.

The head is curiously marked as follows; ^{superciliary} bounded by two lateral stripes of lead color, enclosing upon the sides but two longitudinal white stripes with a black area between. The feathers of the crown are mottled with black and rusty, with yellowish shaft streaks and fulvous edges.

Upon the occiput is an expanded crest of decumbent ^{a line of the lateral ones half chestnut rufous,} feathers of plain ashy fulvous. Sides of the head white, of velvety texture, with a small black spot above the front of the eye involving the anterior half of the upper lid. The paroties are also black, as are the middle of the chin and throat. The maxillary stripes are lead color, widening and truncate behind, ^{where} scarcely confluent with the ^{black} stripe of the throat and enclosing broad white stripes upon the sides of the throat. Succeeding these stripes upon the neck, is a broad band of white, bordered below by black, extending transversely and joining

the white on the sides of the head behind the paroties. The black border is narrowly edged below with ashy brown, and interrupted in the middle line by the exposed white bases of the feathers ^{there} extending nearly to the tips. The feathers of the neck above, the scapulars and interscapular region, differ from those of the rest of the dorsum in being long and loose.

They are marked by central whitish shaft streaks, laterally irregularly barred with black upon a ground of pale vinaceous cinnamon. The pattern upon the middle of the back is strongly suggestive of that of the red grouse (Lagopus scoticus). Anteriorly the bars are more regular, gradually changing posteriorly to an indefinite mottled arrangement, in which cinnamon, rufous, vinaceous or lilaceous and black are variously combined. Upon the middle of the back the shaft streaks are obsolete, but are more strongly marked than elsewhere upon the rump and upper tail-coverts. The rectrices scarcely exceed their longest coverts in length, or differ from them in form and markings. The quills are brownish-gray, with whitish spotting upon the outer webs of the primaries, becoming ~~obsolete~~ obscure and crossing to the opposite side of the shafts upon the secondary remiges, and rusty tinted. This part of the wing resembles a turkey's. The exposed wing coverts and elongated inner tertials entirely conceal the tips of the primaries. The former are spotted with a double series of black spots upon an ashy ground, and have conspicuous yellowish-white shaft streaks. The colors of the latter are intermediate between those of the scapulars and greater coverts. The least coverts are spotted with rusty, vinaceous and white upon an ash-colored ground. The feathers of the sides of the breast

and neck are lead color with double series of rounded white spots extending forward to the nose where they become obsolete. ~~The~~ ^{The} maroon brown area begins upon the lower part of the neck in the median line, where it is mixed with the lead color of the sides, and bifurcates upon the middle of the breast, extending backwards upon either side, where it may be traced as far as the axillaries, ending in lines of saggitate spots tipping the feathers. Upon the borderline between the chestnut of the breast and the lead color of the sides are some curious parti-colored feathers. The under surface of the wing is ashy, having the smaller coverts spotted obscurely with white.

4493 Agelaius phoeniceus. ♂ ad. 243; 405; 131; 110; cul., 21; gape 21.5; height of bill at base, 13; width, 10; tip of bill to center of pupil, 26; to occiput, 42; base of bill to occiput, 26; tars., 27.5; Mtc., 28; mt., 21; cl., 8.5.

No. 309 Felis concolor. ♂ ad. Entire skin except the scalp which was cut off to obtain the bounty on, and skull (broken behind). Shot in the act of killing a yearling heifer by a lad only 14 years old.

No. 310 Felis concolor ♂ juv. (a yearling?). Skin as above and skull preserved. Killed by Martin Leasner, the 14-year-old boy who shot the above specimen. This one was freed up a pinner by a dog and then shot. Mr. Leasner, the boy's father told me that it always prefers to "tree" in a pinner, and will run through a whole grove of cedars to get to a pinner tree.

The latter, once shot, threw out of five lions that were feeding together upon the carcasses of three mule deer which they had killed and dragged into a little grove of cedars in a rocky ravine. He was so intent upon shooting the one first seen that he failed to observe a very large one in a pinner tree

February 3rd, 1886. Ft. Verde, A. T.

No. 311.

Lynx rufus maculatus F. juv. This specimen looks like an adult, but its skull and small eye both indicate immaturity. The markings are well defined and the facial ruff well developed. The dark markings are nearly jet black below, and the stripes upon the head and the fine spotting upon the dorsum of the feet, especially the fore feet, are ~~well~~ ^{sharply} defined. The rusty or rufous markings are about as in the adult male last taken. The rump and posterior aspect of hinder extremities, flanks and nape are rusty-rufous, darker than usual. The under surface pure white, spotted with black. The coloring is entirely different from the two young females taken earlier in the season.

Dimensions; — Length to end of outstretched hind extremity, 1035; to end of tail, 800; tail to end of hairs, 190; to end vert., 165. Ears above crown, 72; above notch, 78; width, 67. This specimen is without tufts. From tip of nose to front teeth, 13; to eye, 41; to centre of pupil, 48; to ear, 97; to meatus 97; to tip of ear, 185; to occiput, 130; Distance between eyes, 28. Longest whiskers, 108; forelimb from coracoid, 360; from olecranon, 250. Manus, 109; width, 52. Claws: 1st (inner), 15x8; 2nd, 18x9; 3rd, 18x10; 4th, 18x9; 5th 20x11. Hind limb from head of femur, 430; from lower border of patella, 315; Pes, 185; width, 50; Claws: 1st (inner) 15x18; 2nd, 16x10; 3rd, 13x8; 4th 15x8.

Girths: Neck behind occiput, 185; chest, 310; belly, 375; loins, 260. Irides greenish-yellow. Weight just 12 lbs. avoird. Entire skin preserved, together with the skull and first four cervical vertebrae.

No. 312 Procyon hernandezii. ♂ ad Very old, with
canine teeth much worn. He was very
cunning; avoiding a trap well set in a
variety of situations about his haunts; but
at length he was outwitted, the trap being set
cleverly upon the farther side of a belt of
drift over which he had to jump and
could not see the trap until caught.

Weight exactly 20 lbs. Avoir.

Dimensions. - Total length, 970; Tail to end
of hairs, 375; to end of vertebrae, 320; breadth
fully outspread, 170 (tapering to point). Ear
height above crown, 58; above notch, 64; width, 50;
Longest whiskers, 130. Tip of nose to eye, 58; to
centre of pupil, 67; to front incisor teeth, 26; to
anterior edge of ear, 110; to meatus, ~~125~~ 125; to end of
ear, 195; to occiput, 160; to end of outstretched hind
extremity, 920; to angle of mouth, 70. Distance
between eyes, 33; girths: neck behind occiput, 300
Chest 430; belly, 470; loins, 450. Fore limb from
acromion process, 302; from olecranon, 220.

Manus, 96; width, 35; Claws: 1st (anterior), 12; 2nd, 14;
3rd, 14; 4th, 13; 5th, 12. Hind limb from head
of humerus, 400; from lower border of patella, 257
Pes, 135; width 40; Claws 1st (anterior), 11.5; 2nd, 12;
3rd, 13; 4th, 13; 5th, 12.

Description. - The fur is of two kinds: long,
coarse outer hair, dense above, where the
longest is pointed with black, very scanty below
and uniformly grayish-white upon the
ventral surface. Under fur dark, sooty
brown upon the dorsum; under surface much
paler brown; outer surface of extremities of a
darker, hepatic shade. The naked muzzle
and tip of chin, which is very scantily haired, are
black. Sides of the muzzle, end of the lower
jaw, lips and a line extending backwards from

the angle of the mouth, white. A black area
begins at the naked muzzle, extending backwards
between the eyes and ~~extending~~ laterally involving
the cheeks, barely including the eyes, and extending
backwards between them until lost upon the
forehead; A brownish black area occupies the
region behind the chin, and scarcely separated
from the black of the top of the face by an
obsolete whitish line extending backward from
the commissural angle and widening into a
grayish white patch occupying the sides of the
neck and region in front of the ear. A white
strip, on each side, begins near the median line
above the eye, extending backward to the whitish
area occupying the sides of the neck and space
in front of the ears, which latter are also
white upon both surfaces except at base above.
A sooty black patch at the base of the outer
border of the ear. The crown of the head is
mixed gray and black, becoming strongly
tinged with rusty upon the nape. The long hair
of the dorsum is yellowish or rusty white, with
many of the hairs broadly tipped with black.
There is no median darker line. Upon the
flanks, extremities and ventral surface the
color changes to grayish white. ~~Below~~ the
long hairs become so scanty, that the ~~crisp~~
brown under fur is plainly visible. The scrotum
is densely hairy. The feet do not differ from
the general color of the under surface, being
uniform with the rest of the ~~limbs~~ ^{extremities}. Upon the
rump and posterior aspect of the hind ~~limbs~~
legs, where the long hair is very scanty, the
rich brown under fur is conspicuous. The
tail is pale rusty, with seven rings and tip of
black. The rings, formed by the tips of the
hairs, decrease in width towards the base, the

first one or two being almost obsolete. They are scarcely continuous below, where a shade of rufous darker than the rest of the under surface of the tail pervades the region of the wings. All of the whiskers and bristles about the head ~~are~~ except a few small ~~ones~~, are white throughout. The claws are purplish-brown. The naked feet, plumbeous.

February 5th 1886. Ft. Verde, A.T.

No. 313

Lynx rufus maculatus ♂ ad. Distance between extended fore and hind extremities, 1260; Total length, 820; Head and body, measured to end of ~~pelvis~~ ^{ischii}, 700; Tail to end of hairs, 165; to end of vertebrae, 143; Ears, height above crown, 76; above notch, 78; width, 72; Ear-tufts very small. Distance between eyes, 33.5; From tip of nose to front teeth, 12; to angle of mouth, 58; Eye, 42; to centre of pupil, 49; to ear, 110; to meatus, 100; to tip of ear, 195; to occiput, 130; to end of outstretched hind leg, 107.0; Fore limb from acromion, 360; from coracoid, 260; Manus, 108; width, 55. Claws. - 1st (inner), 18x11; 2nd, 17x9; 3rd, 18x9; 4th, 17x8; 5th, 16x8; Hind limb from head of femur, 460; from lower border of patella, 310; Pes, 167; width, 55. Claws. - 1st (inner), 15x9; 2nd, 15x9; 3rd, 15x8; 4th, 12x7.

Lengths. - Neck behind occiput, 230; chest, 360; belly, 400; loin, 300; longest whiskers, 80; This specimen was not weighed; but would probably weigh about 20 pounds.

Description. General coloration unusually pale and grayish with ^{all the} markings above obscure. General color of the pelage above yellowish brown overlaid with gray + black tips. No regular lines anywhere upon the ^{manus} ~~manus~~, except two parallel median stripes extending from the middle of the

back to the root of the tail. Everywhere else the linear markings are obsolete. No rufous tint anywhere, the parts usually marked with rufous or rusty being fulvous. The under surface + extreme tip of tail, white, subterminally black above, a few brownish rings indicated above. There are some obscure spotting of brown on the upper surface of the fore feet, but the tops of the hind feet are immaculate brownish white. The usually black markings on the back of the ear are light sooty gray except at the tips of the ears which are black.

- No. 314 *Canis macrotis* ♂ ad. December 14th, 1884. This deer weighed 184 lbs dressed (i.e. eviscerated). The skull, without the inferior maxilla, was alone preserved. Baker's Butte, Mojallon Mts, A.T.
- No. 315 *Canis macrotis* ♂ ad. Winter. Horns preserved.
- No. 316 *Canis macrotis* ♂ ad. " " "
- No. 317 *Felis domestica* ♂ ad. Shot on roof of quarters Jan. 15, 1886.
- No. 318 *Felis domestica* ♂ ad. Shot on roof of quarters Jan. 16, 1886. Skull only, of this and No. 317, preserved.
- No. 319 *Vulpes cinereo-argentatus* ♂ ad. Febr. 1st, 1886. Skull and skin. Taken 15 miles south of Fort Verde, Arizona.
- No. 320 *Mephitis interrupta* ♂ ad. February 2nd, 1886. Skull taken 15 miles south of Fort Verde, Arizona.
- No. 321 *Mephitis interrupta* ♀ ad. Febr. 6th, 1886. Skull taken 15 miles south of Fort Verde, Arizona.
- No. 322 *Bassaris astuta* ♀ ad. Febr. 8th, 1886. Skull. Taken 15 miles south of Fort Verde, Arizona.
- No. 323 *Castor fiber canadensis* ad. Skull found beside the Verde River, Arizona in 1886.
- No. 324 *Castor fiber canadensis* ad. Skull and greater part of skeleton; found beside the Verde River, Arizona in 1886.
- No. 325 *Urocyon cinereo-argentatus* ad. Skull and upper cervical vertebrae. Fort Verde, Arizona. ^{Found in} 1886.

No. 326 Urocyon cinereo-argentatus ♂ ad. Strawberry Valley, Arizona. Hunters skin without nose and feet.

No. 327 Urocyon cinereo-argentatus Adult. Skull found at Arizona in

Skull, without lower jaw.
No. 328 Canis macrotis ♂ ad. Tail only preserved. Fort Verde, Arizona. Jan. 4, 1886.

No. 329 Ursus americanus Black Bear. Adult. Indian Garden, Oak Creek, Arizona. January 14, 1885. Skull without lower jaw, and otherwise imperfect.

4494. Plegadis falcinellus adult. Skeleton found beside Verde River 1884. Skull only preserved.

4495. Cardinalis cardinalis superbus. ♀ ad. Skull only. Spot between Mountain Spring and Fort Lowell, Arizona. May 5, 1885.

February 15th 1886. Ft. Verde, Ariz.

4496. Melospiza fasciata ^{montana} ~~illax~~ ♂ ad. 173; 235; 73; 80; cul., 13; gape, 13; Tars 22; ntc, 24; el., 6. Irides, hazel. Bill, brownish black; bluish horn-color at base below and upon sides. Tarsi brownish flesh-color. Feet and claws light brown.

4497. Hylocichla unalashkæ nairidis ♂ ad. 181; 293; 74; 75; cul., 15; nostril, 9; gape, 21.5; Tarsus, 29; ntc, 23; el., 5.3.

4498. Sayornis sayi. ♀ ad. 195; 321; 104; 87; cul., 19; nostril, 11; gape 22; Tarsus, 20; ntc, 16; Claw, 5.

Note. - Harpophynchus crissalis Henry.
Index: - Critical notes, Vol. III, 112, 113, 125.
Colors of soft parts, Vol. III, 46, 62, 63, 73, 111, 112, 197, 266, 281 Vol. IV, 52, 56
Range and habits, Vol. II, 462; Vol. III, 27, 30, 49, ⁷³109, 112, 113, 118, 125, 153, 159, 161, 186, 191, 195, 197, 208, 213, 231, 235, 237, 238, 241, 243, 258, 263, 271, 307, 309, 318, 327, 337, 341

~~342~~, 342; Vol. IV, 46. See also table of distribution of the Deming expedition and pages

Fort Verde, A. T. February 18th 1886.

No. 330. Spermophilus grammurus grammurus ♂ ad. Total length, 503; head & body to tuber ischii, 275; tail, to end of hairs, 250; to end of vertebrae, 195; width of tail, 100; tip of nose to eye, 27; to center of pupil, 33; to ear, 53; to meatus, 55; to tip of ear, 73; to occiput, 67; to outstretched hind leg, 390; longest whiskers 55; tip of nose to front teeth, 9; chest girth, 155; belly girth 205; between eyes, 31; ears, above crown, 18; above notch, 26; width, 22; length of forelimb from coracoid, 109; from olecranon, 83; manus, 40; breadth of manus, 15; longest claw, 9; hind limb from head of femur, 350; from lower border of patella 110; pes, 62; width of pes, 19; longest cl., 8.

4499. Harpophynchus crissalis ♀ ad. 312; 323; 100; 145; cul., 38; nostril, 29; gape, 40; Tarsus, 33; ntc, 30; el., 7.5; hind claw, 10; from frontal feathers to occiput, 34. to tip of bill from frontal feathers 32. Tip of bill to centre of pupil, 45. Graduation of tail, 29. Irides light brownish-yellow. Bill, black. Tarsi and feet dusky olivaceous-brown; claws, plumbeous-black.

Above nearly uniform ashy-brown; below a fair shade of the same, but clearer ashy; under tail-coverts and crissum chestnut-rufous, this color fading as it passes forward to the epigastrium into pale rusty yellow; tibiae and lining of wings washed with the same. The chin, middle of throat, maxillary stripes and spotting upon cheeks, white. There are narrow blackish stripes upon the sides of the throat, cutting off the white maxillary stripes above.

them. The outer rectrices have conspicuously paler rusty tips. Under plumage lead color.

4500. Merula migratoria propinqua ♂ ad. 264; 433; 143; 115; cul. 22; nost., 13; gape, 28; tars., 35; mte., 30; claw, 6.

4501 Thryomanes bewickii leucogaster ♂ ad. 142; 189; 62; 62; cul., 16; nost., 11; gape, 19; tars., 19; mte., 16; claw, 4.6.

February 20th 1886.

4502 Carporhynchus crissalis ♂ ad. 309; 330; 105; 148; cul., 38; nost., 30; gape, 42; tars., 31.5; mte., 27; cl., 7; hind claw, 10; Graduation of tail, 2.7; from frontal status to occiput, 35; to tip of bill from frontal feathers, 33; tip of bill to center of pupil, 46.

Irides, brownish straw color; bill, dark neutral tint feet & claws like 4499.

This specimen and no. 4499 are the types of my description of the species. The female was shot on Febr. 18, but not skinned until the following morning, when I discovered that she had already oviposited and her ovary contained two corpora lutea. This morning I went to the bush where I had flushed her, and found the male (No. 4502) sitting upon two eggs. I shot him and took the nest and eggs. The nest was saddled upon the branches of a mesquite bush, in part supported by the thorny branches of a neighboring bush. It was surrounded by bristling array of spiny "haw" and mesquite twigs of moderate size, within this barricade the nest proper was placed. It is bowl-shaped; and with the exception of a few hens' feathers composed entirely of vegetable materials very neatly filled into a compact, warm nest. The principal materials are fine withered grass, stems of plants and shreddy inner bark. Externally it measures 150 mm in height by 300 mm in ~~breadth~~ width; the internal depth is 45 mm, internal diameter, 90 mm. The two eggs are uniform ~~green~~ bluish-green, darker and greener than specimens that have been in my cabinet nearly two years. They measure 30 X 20 and 29 X 20 mm.

respectively. A set of 4 eggs taken near Fort Verde (No. ^a/₄) June 16, 1884 are greenish-blue, and measure 29 X 20; 29 X 19.5; 30 X 20; 28 X 20.5. The nest is about the same size as the one just taken, but constructed of somewhat coarser materials.

During the 30 days preceding the discovery of this nest the ^{correct} temperature of each 24 hours, averaged 32° F., with extremes of 24° and 42° F.; and the maximum thermometer for the same period averaged 67°, with extremes of 75° and 55° F.

Asio americanus ♂ ad. Febr. 20th Cinega 10 mi. 4503. W. of Ft. Verde. She was about to lay eggs.

360; 1020; 315; 163; cul. at cere, 29; cere, 13; cul., 19; gape, 30; tarsus, 43; mte., 48; cl. 19. Irides yellow.

Our Mesquites are as follows: (See 40th Par. V, 420) Genus Prosopis ("Mesquite; Screw Bean").

Sub-genus Algarobia (Pods falcate, flat). P. glandulosa
" " Strombocarpa (Pod spirally twisted). P. P. puber-
scens et cinerascens.

February 25th 1886 Ft Verde, Arizona

Lepus texianus ♀ ad. Total length, 660. Length to ^{No. 331} ischii, 560; Tail to end hairs, 140; to end vertebrae, 100; Ears above skull, 183; above notch, 145; width, 90; tip of nose to eye, 60; centre of pupil, 69; ear, 95; tip of ear, 270; occiput, 115; outstretched hind leg, 850; ⁽²⁹⁰⁾ tip of outstretched fore to that of hind leg, 990; Between eyes, 47; chest girth, 325; Manus, 79; Pes, 145; Fore leg, 210; Hind leg, 277; Fore limb from coracoid 290; Hind limb from head of femur, 370; longest whiskers, 120.

Lepus texianus. ♂ ad. Total length, 666; Length to ^{No. 332} ischii, 555. Tail to end of hairs, 145; to end vertebrae, 105; Ears above skull, 175; above notch, 140; width, 90; tip of nose to eye, 55; to centre of pupil, 64; to ear, 90; to tip of ear, 270; to occiput, 106; to end of outstretched hind foot 855;

longest whiskers, 95;
 front of outstretched fore leg to that of hind, 980;
 Between eyes, 45; Chest girth, 285; Manus, 75;
 Pes, 145; Fore leg, 203; Hind leg, 280. Fore limb from
 coracoid, 270; Hind limb from head of femur, 355
 No. 333 Lepus texianus ♂ ad. Total length, 630; Length to
 os ischii, 530; Ears above skull, 165; above notch, 138;
 width, 90; Tail to end vert., 105; to end hairs, 135; Tip of nose
 to eye, 56; centre pupil, 66; ear, 90; tip of ear, 275; occiput,
 110; end hind leg, 820; Between eyes, 45; Chest girth, 290;
 Manus, 72; Pes, 142; Fore leg, 195; Hind leg, 270;
 Fore limb from coracoid, 265; Hind from head of femur, 345;
 Total expanse between tips outstretched limbs, 945;
 longest whiskers, 110.

February 27th, 1886. Ft. Verde, A.T.

To-day rode up to Copper Cañon. Showery at
 intervals all day and some hail. A good many
 flowers in the cañon. Among them Indian Pink,
 2 species of Astragalus, Manzanitas (many falling already)
 Purple bud-like flowers (), Cottonwood,
 alders nearly fallen, Cruciferae (small yellow).
Speruophulus grammurus. - Three seen.

No Chrysolophus save one Harris's.
 4504. Certhia familiaris. ♀ ad. Copper Cañon near Ft. Verde.
 132; 196; 65; 57; cul., 16; nost., 12; gape, 19; tars., 15;
 mte., 16.5; claw, 6; hallux + claw, 16; claw of hallux, 8.
 Irides hazel, bill brownish black above and at
 tip below, residue flesh color. Tarsi feet & claws
 light brown. Excepting the under tail coverts,
 the under parts, including axillars and lining
 of wings are pure white. All of the remiges
 are dark brown broadly banded with white—
 except upon the four outer feathers—this band
 having a faint rusty tinge. All but the outer
 remiges have a small whitish spot upon the
 outer web at tip, as have the greater wing
 coverts and spurious wing. Midway between

the white band and the tips of the feathers the
 remiges are edged externally with grayish
 white. A brownish area extends through
 the eye from the base of the bill, invading the
 lower half of the lid and widening to include
 the auriculars. Above this is a broad superciliary
 white stripe becoming mixed with brown behind the au-
 riculars. The rump and upper tail coverts are
 rusty yellow, the rest of the dorsum, brown or ashy
 brown, the feathers striped centrally with white, and
 edged with rusty fulvous, increasing in amount poster-
 iorly. Tail, ashy brown, shafts very pale brown, the central
 feathers with faint indications of transverse bars near the
 shafts. Under tail coverts pale rusty yellow.

4505. Psaltriparus plumbeus, ♂ ad. 117; 160; 52; 63;
 cul., 7; nost., 5; gape, 8; tars., 16.5; mte., 11.5; claw, 4;
 Irides, hazel, bill, black, tarsi, feet and claws, black.
 4506. Junco oreganus ♀ ad. 153; 233; 73; 66; cul., 11;
 gape, 12; tars., 21; mte., 18; claw, 5.
~~March 1st 1886.~~

4507. Carpodacus cassinii ♂ ad. 168; 279; 94; 70;
 cul., 14; gape, 16; height of bill at base, 11; width, 9.5;
 tars., 19; mte., 21; claw, 6; hte., 13; its claw, 7.
 4508. Carpodacus purpureus californicus ♂ ad. 160; 250; 84;
 64; cul., 12; gape, 15; height of bill at base, 10.5; width
 8.5; tars., 19; mte., 19; claw, 5.5; hte., 13; claw, 6.
 4509. Carpodacus frontalis ♂ ad. 158; 260; 83; 69;
 cul., 11.5; gape, 12; height of bill at base, 10; width, 9;
 tars., 17; mte., 19; claw, 5; hte., 12.5; claw, 6.
 Colors of soft parts. In all of the above species
 the irides are hazel. Bill olivaceous brown,
 Tarsi and feet brown, of a dusky shade in
frontalis, palest in californicus. Claws, dusky.
 4510 Carpodacus cassinii ♀ ad. 163; 276; 93; 64;
 cul., 12; gape, 14.5; tars., 17; mte., 20.5; claw, 5.5.

- 4511. Carpodacus purpureus californicus ♀ ad. 160; 254; 83; 61; cul., 12.5; gape, 14; tars., 19.5; mte., 21; claw, 6.5.
- 4512. Spinus pinus ♀ ad. 125; 219; 74; 49; cul., 12; gape, 11.5; tars., 13; mte., 16; claw, 5; hte., 12; claw, 6.
- 4513. Carpodacus cassinii ♀ ad. 165; 277; 89; 66; cul., 13.5; gape, 14.5; tars., 18; mte., 20; claw, 5.5.
- 4514. Carpodacus cassinii ♂ ad. 172; 286; 95; 69; cul., 14; gape, 16; tars., 20; mte. 22; cl., 7.
- 4515. Carpodacus cassinii ♂ ad. 165; 283; 94; 68; cul., 14.5; gape, 16; tars., 17.5; mte., 21; claw, 5.5.
- 4516. Carpodacus cassinii ♀ ad. 164; 284; 95; 66; cul., 12.5; gape, 15; tars., 19; mte., 21; claw, 6.5.
- 4517. Carpodacus frontalis ♂ ad. 154; 247; 80; 66; cul., 11; gape, 12.5; tars., 17; mte., 18; claw, 5.
- 4518. Astragalinus tristis ♂ ad. 136; 235; 78; 55; cul. 10.5; gape 10.5; tars., 13; mte., 16; claw, 5.
- 4519. Astragalinus tristis ♀ ad. 138; 231; 75; 54; cul., 10; gape 11; tars., 14; mte., 16; claw, 5.
- 4520. Astragalinus psaltria ♀ ad. 116; 200; 65; 44; cul. 10; gape, 10; tars., 13.5; mte., 15; claw, 5.
- 4521. Carpodacus purpureus californicus ♂ ad. 160; 255; 83; 64; cul., 13; gape, 15; tars., 19; mte., 20; claw, 6.
- 4522. Merula migratoria propinqua ♀ ad. 267; 435; 142; 114; cul., 22; host., 14; gape, 30; tars., 35; mte., 28; claw, 6.
- 4523. Merula migratoria propinqua ♀ ad. 264; 445; 138; 109; cul., 22; host., 14; gape, 29; tars., 33; mte., 30; claw, 7.5.
- 4524. Pipilo maculatus megalonyx ♂ ad. 219; 270; 88; 106; cul., 14; gape, 16.5; tars., 29; mte., 28; claw, 9; hte., 13.
- 4525. Colaptes auratus mexicanus ♀ ad. 334; 535; 175; 130; cul., 40; gape, 44; tars., 29; mte., 30; cl., 11.
- 4526. Lophophanes wollweberi ♂ ad. 131; 206; 66; 64; cul., 9.5; gape, 10; tars., 17; mte., 14; claw, 4.5.

Note. - The three species of Carpodacus whose measurements are given above were quite numerous in the cottonwoods beside the Verde, which are now in flower, as are the wild yellow flowering currants and corydalis. The Franches

were feeding upon the buds of the cottonwood and also upon the blossoms of the more advanced, but they were found on dissection to be literally chape full of yellow worms which eat the young cottonwood flowers. Many species of Fringillidae associated together, and a charge of shot fired into one of these miscellaneous groups would often bring down individuals of several species. Occasionally two of the three species of Carpodacus would be shot at once, and perhaps some Spinus tristis, Spinus psaltria or Spinus pinus at the same discharge. Geothlypis trichas occidentalis. - One adult male was seen in a patch of sagebrush & flowering currants on the island between the sluice and the Verde River.

March 2nd, 1886. Ft. Verde, A. T.

Junco dorsalis. - To-day the valley is white with snow. Many birds have come down from the mountains. Among them are Pipilo fuscus mesoleucus, Pipilo maculatus megalonyx, thousands of Junco ^{hyemalis strepeltii} ~~gregorius~~, and a number of Red-backed Snowbirds. - The latter stay in the same flocks with Oregon Snowbirds, but keep around the bases of the cottonwoods, often alighting against the trunk like a Pine Warbler and capturing worms & insects infesting the trunks. The Californian Purple Finch (Carpodacus purpureus californicus) has an entirely different call-note from the Eastern Purple Finch ^{the former (C. cal.)} which much more resembles the sharp call-note of Dendroica auduboni, a species that is rather common in the same locality at present. Meadow Lark (Sturnella neglecta) is very abundant. Whole flocks singing at once.

Podiceps gramineus confinis, as species rather scarce in winter, is now becoming plentiful. The same remarks apply to *Chondestes grammacus strigata*. The migratory movement seems just to have begun. The Yellow throat *Geothlypis* seen yesterday heading the list of strictly migratory species.

4527. *Hylocichla umalashkai* ♀ ad. 174; 277; 93; 75; cul., 14; nostril 9; gape, 20; tars., 30; mte., 24; cl., 6. Iris hazel. Mouth & basal half of bill yellow; residue dark brown. Tarsi, brownish flesh-color; feet & claws, brown.

4528. *Hylocichla umalashkai* ♂ ad. 176; 282; 92; 74; cul., 13.5; nostr., 9; gape, 19.5; tars., 30; mte., 22.5; cl., 4.

4529. *Junco dorsalis* ♂ ad. 167; 260; 85; 79; cul., 12; gape, 13.5; tars., 21; mte., 21; claw, 6; hte., 16; cl., 7.

4530. *Junco dorsalis* ♀ ad. 160; 248; 81; 74; cul., 12; gape, 13.5; tars., 21.5; mte., 21; claw, 5.5.

4531. *Junco dorsalis* ♀ ad. 167; 250; 82; 80; cul., 12.5; gape, 13.5; tars., 21.5; mte., 21; claw, 5.

4532. *Spinus pinus* ♂ ad. 127; 225; 77; 54; cul., 12; gape, 12; tars., 14; mte., 17; claw, 6; hte., 13; claw, 6.

4533. *Carpodacus cassinii* ♂ ad. 165; 283; 95; 69; cul., 13.5; gape, 14; tars., 19; mte., 21; claw, 5.5.

4534. *Carpodacus purpureus californicus* ♀ ad. 154; 247; 80; 62; cul., 12; gape, 14; tars., 19; mte., 20.5; claw, 6.

4535. *Carpodacus purpureus californicus* ♀ ad. 150; 244; 79; 62; cul., 12; gape, 14; tars., 18.5; mte., 20; claw, 6.

4536. *Carpodacus purpureus californicus* ♀ ad. 156; 249; 80; 62; cul., 12.3; gape, 14.3; tars., 18; mte., 20; claw 5.3

4537. *Sialia arctica* ♂ ad. 191; 359; 122; 79; cul., 14.5; gape, 21; nostril, 10; tarsus, 23; mte., 20; claw, 6.

4538. *Sialia arctica* ♀ ad. 185; 333; 113; 71; cul., 14.5; gape, 21; nostr., 9.5; tarsus, 22; mte., 20; cl., 5.

4539. *Carpodacus purpureus californicus* ♀ ad. 152; 250; 80; 61; cul., 12; gape, 14.5; tars., 18; mte., 20; claw 5.5.

4540. *Spinus pinus* ♀ ad. 124; 224; 73; 51; cul. = men, 11; gape, 11; tars., 14; mte., 16; claw, 5.

4541. *Junco dorsalis* ♂ ad. 155; 240; 78; 69; cul., 11.5; gape, 11.5; tars., 20; mte., 19; claw, 5.

4542. *Carpodacus cassinii* ♀ ad. 165; 283; 93; 64; cul., 12.5; gape, 14; tars., 19; mte., 19; claw, 5.

4543. *Carpodacus cassinii* ♀ ad. 170; 282; 94; 65; cul., 13; gape, 15; tars., 20; mte., 20.5; claw, 5.5.

4544. *Mergus merganser americanus* ♂ ad. 690; 940; 273; 130; cul. from frontal feathers, 61; from extreme base, 75; max., 41; gape, 81; bare tibia, 10; tars., 51; mte., 78; claw, 9.

March 4th, 1886. Fort Verde, A. T.

To-day two Steller's Long-crested Jays (*Cyanocitta stelleri maculosa*) were seen on the cottonwoods on the parade of Fort Verde. This is the first time I have seen them down in the Valley, and except in Leberry Creek, where there are large pines, I have never seen them near this post.

I never saw Woodhouse's Jay down in the Valley but once, although they reside upon the nearest hillside throughout the year.

March 5th, 1886. Fort Verde, A. T.

Junco dorsalis. - A number of them are feeding upon the ground about the hospital in company with Cassin's Purple Finch (*Carpodacus cassinii*), House Finch (*C. frontalis*), Western Grass Finch (*Coereba gramineus confinis*), and Oregon Snowbirds (*Junco oregonus*). I have seen no Mountain Mockingbird for some weeks until this morning, when I found one near the hospital. A Least Pewee (*Cipilo fuscus maculatus*) sings every morning in a cottonwood beside the hospital. The song is quite musical and in a trill.

Red-backed Snowbirds are less shy than *Junco* *prognus*, with which they associate. They like to run about upon the large branches of some enormous cottonwoods down the river. A dozen or two were seen in one tree. When upon the ground they walk close around the cottonwood trees, and often alight against the trunks like Pine Warblers. They are readily recognized at considerable distance by the black eye stripe and red back on a gray ground.

- 4545. *Carpodacus cassinii* ♂ ad. 175; 293; 91; 69; cul., 14; gape, 15; tars., 19; mte., 20; claw, 6.
- 4546. *Carpodacus cassinii* ♂ ad. 167; 288; 95; 68; cul., 13; gape, 14.5; tars., 18.5; mte., 20; claw, 5.
- 4547. *Carpodacus purpureus californicus* ♂ ad. 154; 256; 82; 61; cul., 12.5; gape, 14; tars., 18.5; mte., 20; claw, 6.
- 4548. *Melospiza fasciata ^{yellow} ~~gambelii~~* ♂ ad. 159; 211; 68; 71; cul., 12; gape, 13; tars., 21; mte., 21; claw, 5.5.
- 4549. *Melospiza lincolni* ♀ ad. 149; 211; 67; 66; cul., 11.5; gape, 12; tars., 21; mte., 19; claw, 4.5.
- 4550. *Junco dorsalis* ♂ ad. 165; 255; 86; 77; cul., 12.5; gape, 14.5; tars., 21; mte., 20; claw, 5.3.
- 4551. *Vipilo fuscus mesoleucus* ♀ ad. Molting.
- 4552. *Junco dorsalis* ♂ ad. 171; 263; 88; 80; cul., 12; gape, 13.5; tars., 21; mte., 20; claw, 5.
- 4553. *Junco dorsalis* ♂ ad. 175; 272; 89; 82; cul., 12.5; gape, 14.5; tars., 20.5; mte., 20.5; claw, 6.
- 4554. *Carpodacus cassinii* ♀ ad. 159; 277; 90; 64; cul-men, 13; gape, 15; tars., 19; mte., 19; cl., 5.
- 4555. *Carpodacus purpureus californicus* ♀ ad. 155; 245; 80; 60; cul., 13.5; gape, 15; tarsus, 17.5; mte., 20; cl., 6.
- 4557. *Carpodacus purpureus californicus* ♀ ad. 161; 246; 80; 64; cul., 14; gape, 16; tarsus, 18; mte., 20; cl., 6.
- 4558. *Carpodacus purpureus californicus* ♀ ad. 147; 240; 77; 59; cul., 13; gape, 15; tarsus, 17; mte., 20; cl., 6.

- 4559. *Spinus tristis* ♀ ad. 131; 233; 76; 53; cul., 11; gape, 11.5; tars., 14; mte., 16; claw, 5.
 - 4556. *Spinus pinus* ♀ ad. 127; 233; 78; 51; cul., 11; gape, 11.5; tars., 14; mte., 15; claw, 5.
 - 4560. *Spinus pinus* ♀ ad. 131; 227; 77; 53; cul., 11; gape, 11.5; tars., 15; mte., 17; claw, 5.5.
 - 4561. *Regulus calendula* ♂ ad. 115; 185; 61; 48; ~~cul.~~ ^{nostr.} 6.2; ~~tars.~~ gape, 12.5; tars., 19; mte., 15; cl., 4.5.
- March 6th 1886. Ft. Verde, Arizona.
- 4562. *Junco dorsalis* ♀ ad. 167; 253; 82; 78; cul., 11.5; gape, 12.5; tars., 22; mte., 20; claw, 5.
 - 4563. *Junco dorsalis* ♀ ad. 168; 250; 83; 79; cul., 12.5; gape, 13.5; tars., 22; mte., 20; claw, 5.5.
 - 4564. *Junco dorsalis* ♂ ad. 165; 255; 84; 76; cul., 11.5; gape, 12.5; tars., 21; mte., 19.5; claw, 5.
 - 4565. *Junco dorsalis* ♀ ad. 166; 257; 82; 77; cul., 12; gape, 12.5; tars., 21; mte., 20; claw, 5.7.
 - 4566. *Junco dorsalis* ♂ ad. 178; 279; 92; 82; cul., 12; gape, 13; tars., 22; mte., 21; claw, 5.5.
 - 4567. *Junco ^{blue} ~~regulus~~ ^{elati}* ♂ ad. 162; 250; 81; 71; cul., 11.5; gape, 12.5; tars., 21; mte., 19; claw, 5.
 - 4568. *Carpodacus purpureus californicus* ♂ ad. 168; 252; 82; 63; ~~gape~~ cul., 12.5; gape, 14.5; tars., 18; mte., 20; claw, 5.5.
 - 4569. *Carpodacus purpureus californicus* ♂ ad. 154; 245; 82; 61; cul., 13; gape, 14.5; tars., 18; mte., 18; claw, 5.5.
 - 4570. *Carpodacus purpureus californicus* ♀ ad. 149; 237; 78; 58; cul., 11.5; gape, 13; tars., 17; mte., 18; claw, 5.
 - 4571. *Carpodacus purpureus californicus* ♀ ad. 156; 247; 82; 60; cul., 13; gape, 14.5; tars., 19; mte., 19.5; claw, 5.5.
 - 4572. *Sialia arctica* ♂ ad. 188; 342; 118; 76; cul., 15.5; nostr., 10; gape, 31; tars., 23; mte., 21; claw, 5.
 - 4573. *Sialia arctica* ♀ ad. 183; 339; 114; 68; cul., 15; nostr., 10; gape, 21.5; tars., 22.5; mte., 21; claw, 5.
 - 4574. *Dendroica ^{coronata} ~~auduboni~~* ♂ ad. 153; 240; 79; 66; nostr., 7; gape, 14; tars., 19.5; mte., 17; claw, 5.
 - 4575. *Spinus pinus* ♂ ad. 124; 224; 75; 51; cul., 10.5; gape, 11; tars., 12; mte., 16; claw, 5.

- 142
4576. *Spinus tristis* ♂ ad. 135; 236; 79; 58; cul., 11; gape, 11.5; tars., 14; mte., 16; claw, 5.
4577. *Spinus tristis* ♀ ad. 131; 229; 76; 53; cul., 10; gape, 10.5; tars., 13.5; mte., 17; claw, 6.
4578. *Carpodacus frontalis* ♂ ad. 155; 247; 82; 67; cul., 11; gape, 12; tars., 18; mte., 20; claw, 6.

March 8th, 1886.

To-day we rode to Jerome in the buckboard with Major ^{E. K.} Otey, Superintendent of the United Verde Copper Mine. Lieut Mason, Major Otey & his borros a soldier mounted on my horse "George", and myself constituted our party. We rode to the "Cottonwoods" at the Upper Verde, and then turned off up the mountain-side, at first crossing a wide sloping mesa, thence up the steep mountain road to an elevation of nearly 6000 feet (just about the same as Prescott). At the foot of the mountains we saw a large rancho at the distance of several miles, occupying the site of the old Government Post of Fort Verde, & some of the buildings still standing and converted into barns. Flowers of several species were blooming upon the sunny mountain slopes among them several legumes, Cruciferae and a flower like an anemone with downy rose-purple petals, and a centre like a thimble-wood; leaves palmate and bronzy purplish-brown in color. Upon the neighboring north slopes the snow was still deep; and at Jerome, winter still held the landscape in its austere grasp. The valley are sparsely wooded with handsome evergreen oaks and rough-barked juniper, with pines upon the hillsides & a few pines. The pine belt begins just above Jerome, which is half-way up the mountain. The high pine-clad table-land at the summit is said to command a superb view and to be

143

remarkably beautiful and park-like. The lately thriving mining camp of Jerome is now deserted, work having been stopped several months ago on account of water flooding the mines & the sudden ^{coincident} fall in the price of copper. The mine had declared a dividend of \$100,000 and had spent over \$60,000 upon the construction of roads alone. There are two large smelters on the ground. The town and mines are in the shape of a gigantic fish-hook, the Major's house being located at the point of the barb. When we entered the Major's quarters we were surprised at the array of curios and products of the chase that were tastefully displayed upon all sides of his apartments. This genial and somewhat eccentric lover of Nature and of Sport had spent a portion of his time in, surrounding himself with all the appliances for hunting and fishing, and had collected Indian relics and skins of birds and beasts wherewith to embellish his hermitage in the mountains. The birds' skins and wrens' heads and tails were displayed upon the walls or stuffed upon panels. Among them were a number of *Bettersons*, a species that I have never met with in Arizona. They were shot on Peck's Lake. There were Wild and Coivet Cat, and dozens of skunks of all three species each mounted upon a panel with an appropriate background. Deers' heads, and tails were mounted, and their gutters were polished and ^{tastefully} ornamented. Feet of the Osprey and Golden Eagle were converted into paper-weight or other ornaments and English long bows were hung upon the deers' antlers that were made by the Major, who is the Champion archer of the Pacific Coast, from juniper and other

native trees of this region. Guns, pistols, bows and arrows, rods, trolling spoons, & flies of all descriptions were hung upon the walls, which reflected ^{upon the walls} the refined tastes and ardent love of sport possessed to a remarkable degree by our genial host. A handsome trellis and flower garden, presently to bloom in summer beauty, occupied a little plot in front of the house, which is now bordered by century plants, transplanted from the neighboring slopes. The Major informed us that his two leucos were his constant and beloved and inseparable companions, and showed us their neat little stable upon a rocky point at the edge of the cañon. We went down to view this place, whence one of the Asses had been precipitated over the cliff nearly dragging Major Oley with him. He fell down an incredible distance and then rolled to the bottom of the cañon without ^{sustaining} the slightest permanent injury. The Major then forward dressed this species "the Flying Cloud". When fording the Verde, which was dangerously high, the Major had insisted upon riding this burro, and presented a laughable spectacle perched upon the top of the saddle, bravely buffeting with the swift current that nearly covered the little animal.

One of the Major's pets was a beautiful Levant Cat (Bassaris astuta), a slender, graceful little beast, which barked a sharp little explosive bark and spits like a house cat. He fed it upon ducks' heads and mice. I admired the animal so much that he visited upon presenting it to me. Many and ludicrous were the incidents attending the subsequent care and transportation of this cherished pet, which is now safe and

well in my house at Fort Verde, living upon the fat of the land — mice, gambel's quails etc. The Major also offered to present me with some beautiful skunk's skins, having a perfect byre of white upon a glossy black background & the Mephitis interrupta — and a skull & horns of the Mountain Sheep killed by Mr. Dursey, at Bill Williams, Mtn in Arizona. After dining and examining the treasures of the place, we chatted till nearly midnight and then retired and slept until eight, upon the major's soft feather bed.

Note. — A Jack Rabbit (Lepus texianus) was shot (skull preserved) which, like one lately examined contained a single half-grown Forstus. Cathartes mexicanus conspersus. — This Wren was singing delightfully in the cañon at Jerome. The notes sometimes end in a trill which is said to resemble a sob; and the bird is known about mining camps as the "Cobbing Wren". The notes are very sweet and the effect of their song heightened by the romantic character of the wild, cañoned mountainside which this species affect.

No. 334. Lepus texianus Fad. Skull only preserved. See note above.

March 9th, 1886

4579. Fulix collaris. ♂ ad. Beck's Lake. 447; 730; 205; 80; cul. from frontal feathers, 48; from extreme base, 53; from nostril, 32; gape, 53; height of bill at base, 24; width at base, 20; tip of bill to center of pupil, 71; to occiput, 98; frontal feathers to occiput, 50; bare tibia, 10; tars, 36; Mte, 63; cl., 8; Irides orange, and other soft parts colored like the male specimen previously described.

Over

4580 *Arthya americana* ♂ ad. 520; 850; 233; 75; cul. from frontal feathers, 48; from extreme base, 60; nostr., 35; gape, 61; height at base, 25; width at base, 21; tip of bill to center of pupil, 77; to occiput, 110; frontal feathers to occiput, 59; bare tibia, 13; tars., 42; mte., 70; claw, 9; hte., 21; cl. of hallux, 5. Irides, orange yellow. Bill, broadly tipped and bordered at base with blue-black residue ^{of maxilla} bluish plumbeous, subterminally ^{mandible, blackish, obscurely mottled with purplish.} barred with whitish. Legs + feet greenish gray with dusky joints + webs, claws blackish.

4581 *Nettion carolinensis* ♂ ad. 380; 620; 192; 86; cul. from frontal feathers, 37; from extreme base, 42; from nostril, 29; gape 45; height at base, 16; width at base, 15; ~~4~~ bare tibia, 11; tars., 31; mte., 42; claw, 7.

4582 *Nettion carolinensis* ♀ ad. 367; 600; 180; 82; cul. from frontal feathers, 37; from extreme base, 43; from nostril, 30; gape, 44; height at base, 16; width at base, 14; bare tibia, 10; tars., 31; mte., 42; claw, 7.

4583 *Nettion carolinensis* ♀ ad. 360; 587; 176; 80; cul. from frontal feathers, 35; from extreme base, 41; from nostril, 27; gape, 43; height at base, 15; width at base, 14; bare tibia, 11; tars., 29; mte., 40; claw, 6.5.

These three specimens were killed by Mr. Hutchinson on New River, on March 9th 1886.

4584 *Nettion carolinensis* ♂ ad. 398; 625; 193; 87; cul. from frontal feathers, 35; from extreme base, 42; from nostril, 30; gape, 44; height at base, 16; width at base, 15; bare tibia, 11; tars., 32; mte., 42; cl., 7.

4585 *Nettion carolinensis* ♂ ad. Feathers of ventral surface uniformly tipped with rusty; 390; 623; 188; 86; cul. from frontal feathers, 37; from extreme base 44; from nostril 30; gape, 44; height at base, 16; width at base, 14; bare tibia, 10; tars., 31; mte., 42; claw, 8.

4586 *Nettion carolinensis* ♀ ad. 365; 600; 182; 81; cul. from frontal feathers, 35; from extreme base, 43; from nostril, 28; gape, 42; height at base 14; width at base, 13.5; bare tibia, 11; tars., 29; mte., 40; claw, 7.

4587. *Dafila acuta* ♂ ad. 690; 905; 275; 205; cul. from frontal feathers, 54; from extreme base 64; from nostril, 43; gape, 65; height at base, 24; width at base, 18; tip of bill to center of pupil, 86; to occiput, 114; from frontal feathers to occiput, 58; bare tibia, 14; tars., 45. mte., 61; claw, 10; hte., 18; claw, 5.5. Irides hazel.

4588. *Gallinago media wilsoni* ♂ ad. 270; 415; 133; 64; cul., 60; gape, 58; from head of tibia to end of claws, 115; ^{bare portion,} tibia, 52; tars., 31; mte., 33; claw, 5; hte., 11; claw of hallux, 3; length to end of toes, 317.

4589. *Gallinago media wilsoni* ♀ ad. ~~270~~; 272; 440; 138; 60; cul., 64; gape, 61; from head of tibia to end of claws, 120; tibia, 53; bare tibia, 12; tars., 31; mte., 35; claw, 6.

4590. *Erismatura rubida* ♂ ad. 403; 590; 153; 93; cul. from frontal feathers 40; from extreme base, 48; nostril, 23; gape, 48; height of bill at base, 20; width at base, 20; greatest width, 24; tip of bill to center of pupil, 61; to occiput, 86; from frontal feathers to occiput, 46; bare tibia, 10; tars., 35; mte., 62; claw, 9; hte., 20; claw of hallux, 4. Irides, hazel. Bill, plumbeous black above, yellowish flesh color below. Tarsi + toes greenish gray, webs + outer side of leg, dusky, claws, brown.

4591 *Erismatura rubida* ♀ ad. 385; 570; 145; 90; cul. fr. frontal feathers, 40; from extreme base, 47; from nostril, 23; gape, 47; height of bill at base, 20; width at base 20; greatest width, 26; bare tibia 10; tarsus, 36; mte., ~~68~~ 68; cl., 9. hte., 21; cl., 4.5.

4592. *Erismatura rubida* ♀ ad. 393; 596; 148; 86; cul. fr. frontal feathers, 43; from extreme base, 50; gape, 48; from nostril, 25; height of bill at base, 21; width at base, 21; greatest width, 25; bare tib., 10; tars., 34; mte., 67; cl., 9; hte., 20; cl., 4.

The soft parts are colored like Nos. 4590-91. Very fat and oily. Neck thick and loose like a Kingfisher or *Mergus*, easily skinned over the head.

4593 *Fulica americana* ♀ ad. Length to end of claws, 530; 390; 685; 197; 63; cul. fr. frontal plate, 32; from feathers, 42; gape, 32; from head of tibia to end of claws, 230; tibia, 398; bare portion 23; tarsus 58; mtc, 82; cl., 11.5; mtc 31 cl., 8. Irides, carmine. Bill white, with a dark red band near the tip; frontal plate black. Legs & feet grayish-green. Claws plumbeous black.

4594 *Fulica americana* ♂ ad. Length to end of claws, 560; 410; 710; 210; 63; cul. fr. frontal plate, 35; from feathers, 50. The frontal plate is not developed or has been shed. The skin is white nearly to the edge of the feathers where it becomes reddish.

Other specimens killed have the process developed in varying extent. Gape, 35; from head of tibia to end of claws, 255; tibia, 103; bare portion, 20; tarsus, 60; mtc 89 cl. 15.

4595 *Fulica americana* ad. Length to end of claws, 545; 390; 660; 191; 58; culmen from frontal plate, 32; from feathers, 44; gape, 35; from head of tibia to end of claws, 233; tibia, 96; its bare portion, 26; tarsus, 57; mtc., 82; cl. 12.

4596 *Fulica americana* ♂ ad. Length to end of claws, 570; 412; 710; 192; 68; culmen from frontal plate, 35; from feathers, 47; gape, 37; from head of tibia to end of claws, 250; tibia, 104; its bare portion, 28; tarsus, 61; mtc., 88; cl., 13. The gizzards of these specimens were filled with grass and fine pebbles & sand.

4597 *Buteo borealis calurus* ♂ juv. 355; 1270; 390; 235; cul. + cere, 36; cere, 15; cul., 24; gape, 42; tarsus, 87; mtc 64; cl., 22; inner claw, 27; outer cl., 18; hind cl., 28. Foot preserved. Stomach contained part of a Jack Rabbit.

We rode down to the River this morning, intending to visit Peck's Lake, but found the River so deep that the crossing was dangerous so we went to the upper crossing which

is the best on the River, where we crossed safely and left the buckboard on the bank packing our effects to the cabin upon the Major's burros "Jacked" at Jenness alias "Fly in Cloud" and the Mules & horse. I killed seven Jack Snipes (*Gallinago media wilsoni*) a species which was very abundant, immediately after reaching the lake, and got eight Ducks before reaching the cabin, in which we spent the night. Thirty ducks several mud hens (*Fulica americana*) and several other birds were killed before dark.

Peck's Lake is a long crooked marsh, with a narrow channel of water in the middle only a hundred or hundred and fifty yards wide at the most expanded portion, bordered by cat-tails and tules.

Ducks were very abundant and in great variety.

March 10th 1886.

Arose at daybreak and hunted until our ammunition was expended. When we had breakfasted, we packed our game and stuff on the animal and crossed the Verde which was very high and swift, having been augmented in volume by melting snow from the warm rain that fell last night. We were glad to reach this shore in safety with all of our spoils & belongings. As it was impossible to cross the river lower down we struck off to the Cherry Creek road from the Upper Verde, and thence to the post where we arrived just before sunset. We had 41 ducks, 7 coots, 8 snipes & other birds.

List of Birds seen at Peck's Lake:
Passerculus sandwichensis. A species of pale Savannah Sparrow was abundant among

110
13/50
The tules + cat-tails, which has little or no trace of the yellow head stripe + very pale. I shot one + was struck both before and after shooting it by the difference in coloration from var. claudius. It may be P. anthinus. The specimen was forgotten when we were packing up to leave the cabin.

Melospiza fasciata (fallax?). - Abundant.

Note. - I thought I heard Western Marsh Wrens singing in the tules but was not certain; and also heard what may have been a Rail.

Totanus virginianus subarcticus. - One in a cottonwood. They frequent the lake + capture wounded Ducks, we were informed.

Ardea herodias. - Very troublesome to Mr. Goodwin's

Carp pond near the lake. Abundant.

Oxyechus vociferus. - In flocks

Gallinago media wilsoni. - Gregarious; a dozen or more flushed from one spot. A fine bag of these delicate birds might be made with the aid of dogs.

Fulica americana. - They swam in large flocks upon the open water, riding high upon the water, their heads appearing large because the dense loose feathers were ruffed up. Their white bills glistened in the sun with iridescent effect. They would take to the tules + cat-tails when pursued, and flew with a loud noise produced by drubbing the water.

Their note is a hoarse, harsh croaking. There were about an hundred on the lake, where I am informed by Judge Goodwin who resides on the bank that the species breeds + is a permanent resident.

Their grazings were filled with sand, fine pebbles + grass. Seven were shot by our party. In the tules they move with great facility and try to hide if approached.

Bernicla canadensis. - One large flock. They were fired at several times but none were taken.

111
157
Anas boschas. - Abundant.

Dasila acuta. - Both sexes may be distinguished by their great length when flying, even at considerable distance. Very abundant.

Several were shot by our party.

Mareca americana. - Several were killed.

Spatula clypeata. - Abundant. They are easily distinguished from other ducks by the peculiarity of their flight and their long bill.

We killed several of them in perfect plumage.

Smergulus cyanoptera. - One adult male flew past within a dozen yards of me and alighted within range; but a Canvas-back was shot instead, which I afterwards regretted, as no more were seen.

Nettion carolinensis. - Exceedingly abundant.

A number were shot by us.

Fulix collaris. - Probably common. Only two were shot by us, both in perfect plumage.

Aythya valisineria. - Canvas-backs were rather scarce; but we killed a pair of them, and a winged male escaped into the tules.

There were more females than males - 3 to 1.

Aythya americana. - I killed a fine male. The species was rather plentiful.

Clangula glaucion americana. - One male was seen and several others, ^{ducks} seen were probably females of this species.

Clangula albeola. - Three old males were seen and shot at repeatedly without effect. They are expert divers, and kept close together.

Crisiaterina rubida. - Very abundant upon the lake. They usually preferred to escape by diving rather than flying. They arch their necks forward and dive with the swiftness of a probe, and usually get under before the shot reaches them. We killed eight, all but one upon the water. They are

gregarious but straggle much, and when pursued separate & go in different directions. When diving they often come up close to the gunner whether on shore or in a boat and when waiting for larger game several of them swim within a few yards before me without seeming in the least shy. They are recognizable at a glance by their white cheeks & peculiar form. When ^{they are} prepared for the shot it is useless to fire at them upon the water; but they may be killed immediately upon rising to the surface or when swimming away after they have become accustomed to your presence in a measure. I shot four in this manner with small loads of No. 9 shot. Their plumage is peculiarly glistening and satiny in appearance. Their snowy white cheeks are very conspicuous although the white of the side of the head is interrupted by a dusky line in the female.

Mergus americanus. - One flock.

Lophodytes cucullatus. - Rather common.

We brought home 41 ducks of 9 species.

Larus delawarensis. - A pair of Gulls believed to be of this species were circling about the lake together. There was also a pair of larger gulls resembling Larus argentatus in size and color and the same as the pair seen on Stone's Lake north of Ash Fork, Arizona in November, 1884. Both pairs came within range after our store of ammunition was all exhausted.

Podilymbus podiceps. - One seen on Judge Goodwin's fish-pond.

Myriads of Blackbirds, most of which were Agelaius phoeniceus, roosted at night in the tall cat-tails of the lake. In the early morning they made a tremendous clamor and when flocks would fly away they were observed to have

considerable white upon their wings. As other game was very abundant I paid but little attention to them at first but was attracted by the white color. I fired at a single male which I believed to be Agelaius tricolor. It fell but escaped among the cat-tails and I failed to make the diagnosis positive. It is barely possible that the bird I shot was a partial albino & that the white-winged birds seen were Xanthocephalus icterocephalus.

Aix sponsa. - I have never obtained indubitable proof of the presence of this species in Arizona; but Gurd Crook told me that it occurs, Col. Olney says he killed several on Peck's Lake, and Mr. Ryall claims to have killed one on the Verde Sluice near this post last autumn.

Phalacrocorax? Mr. Edward Jordan has seen "Shags" upon Peck's Lake and the upper Verde and described the Cormorant to me. Judge Goodwin saw one on Peck's Lake some years ago. He saw it alight on cottonwood trees several times & also upon the water. He never saw but one.

Olor sp? Judge Goodwin says he has seen no Swans for two years. That formerly they were abundant on the Lake. He says that quite a number of aquatic birds still breed upon the Lake.

Stelgidopteryx serripennis. - A few Swallows were flying about Peck's Lake March 9th. On the 10th some were seen & positively identified as this species. Possibly more than one species was present.

Shells of several kinds were found along the edge of the Lake, which I was told contained no large fishes.

March 12th, 1886. Ft. Verde, A. T.

335 Lynx rufus maculatus. ♂ ad. Weight 20 1/2 lbs., avoird. Total length, 965; head and body measured to tuberosity of ischium, 820. Tail, from root to end vert 175; to end hairs, 200. Ears above crown, 76; above notch, 81; width 80; ear-tufts 24. From tip of nose to eye, 43; to centre of pupil, 58; to ear, 115; meatus 115; tip of ear 200; occiput, 150; end of outstretched hind foot, 1240; distance between eyes, 32; chest girth 370; belly girth, 390; loin girth 295. Longest whiskers, 95. Tip of nose to front teeth, 17. Fore limb measured from coracoid process to end of toes, 410; from olecranon, 290. Manus 118; width, 60. Its Claws: 1st (inner) 20; 2nd, 18; 3rd, 19; 4th, 17; 5th, 15. Hind limb from head of femur to end of toes, 510; from lower border of patella, 355. Pes, 190; width 55. Claws: 1st (inner) 15; 2nd, 16; 3rd, 16; 4th, 13. Greatest distance between outstretched limbs (from tip fore paw drawn forward to that of hind drawn backward), 1440.

4598. Buteo borealis calurus. - ♂ ad. in dark plumage, without any exposed white.

540; 1290; 400; 230; cul. of cere, 38; cere, 17; Cul., 26; gape, 42; tarsus, 84; ante, 58; met, 40; hind cl., 29; inner cl., 28; m. cl., 23; outer cl., 19. Sides dark reddish-brown. Ires, maxilla, tomium, tarsi and feet, greenish-yellow. Bill + claws plumbeous-black; the former pale at base. Stomach empty.

March 13th, 1886. Ft. Verde, A. T.

336. Mephitis (Spilogale) interrupta, ♂ ad. Shot with a pistol. A large specimen. Total length, 545. Head and body measured to tuber ischii, 305. Tail to end of vertebrae, 160; to end of hairs, 260; width, 250. Ears above skull, 16; above notch, 28; width, 28. Between eyes, 20. Chest girth, 140. Fore limb from coracoid, 108; from olecranon 78; Manus, 40; width, 19. Claws: 1st (inner), 8; 2nd, 12; 3rd, 10;

4th, 9; 5th, 8. Hind limb from head of femur, 127; from lower border of patella, 87; pes, 50; width, 16. Claws: 1st (inner) 6; 2nd, 6; 3rd, 6; 4th, 6.5; 5th, 6. - all six. From tip of nose to eye, 26; to centre of pupil, 31; to ear, 50; to meatus, 54; tip of ear, 72; occiput, 72; end of outstretched hind foot, 375. Tip of nose to front teeth, 11. Longest whiskers, 50.

March 15th, 1886. Ft. Verde, A. T.

4599 Carpodacus purpureus californicus. ♂ ad. 154; 246; 81; 60; cul., 12.5; gape, 14; tars., 18; mte., 20; claw 6. Irides hazel; bill olive brown above, purplish flesh color below. Legs feet + claws brown, the latter dusky.

4600. Carpodacus purpureus californicus ♂ ad. 158; 251; 81; 63; cul., 12; gape, 14.5; tars., 18; mte., 21.5; claw, 7.

4601. Carpodacus cassinii ♂ ad. 166; 286; 96; 67; cul., 14; gape, 16; tars., 18; mte., 21; claw, 6.

4602. Carpodacus cassinii ♂ ad. 168; 274; 93; 66; cul., 13; gape, 16.5; tars., 19; mte., 20; claw, 5.

4603. Carpodacus cassinii ♂ ad. 168; 284; 95; 64; cul., 13; gape, 16; tars., 18; mte., 20; claw, 5.3.

4604. Carpodacus frontalis ♂ ad. 155; 258; 80; 68; cul., 10.5; gape, 12; tars., 17; mte., 18; claw, 4. The colors of the soft parts in all three species, are the same, in all of these male specimens, come in number. The brown of the legs is darkest in frontalis, lightest in cassinii. There is little difference in the shade of the bill, save that in some specimens of cassinii, the base of the mandible is tinged with yellow.

4605. Carpodacus frontalis ♂ ad. 157; 253; 84; 68; cul., 11; gape, 13; tars., 17; mte., 19; claw, 5.

4606. Carpodacus frontalis ♂ ad. 158; 251; 81; 68; cul., 10; gape, 12; tars., 17; mte., 19.5; claw, 5.2.

4607. Carpodacus frontalis ♂ ad. 157; 250; 81; 66; cul., 10.6; gape, 12; tars., 18; mte., 20; claw, 6.

- 4608. *Carpodacus frontalis* ♀ ad. 149; 239; 77; 62; cul., 10.5; gape, 12; tars., 16.5; mte., 18; claw, 5.
- 4609. *Carpodacus cassinii* ♀ ad. 168; 288; 94; 65; cul., 12.5; gape, 14.5; tars., 18; mte., 21; claw, 5.6.
- 4610. *Carpodacus cassinii* ♀ ad. 163; 280; 92; 68; cul., 13; gape, 15; tars., 18; mte., 21; claw, 5.5.
- 4611. *Carpodacus cassinii* ♀ ad. 174; 295; 98; 74; cul., 14; gape, 16; tars., 20; mte., 23; claw, 6.
- 4612. *Carpodacus cassinii* ♀ ad. 166; 280; 92; 64; cul., 14; gape, 16; tars., 19; mte., 20; claw, 5.3.
- 4613. *Carpodacus cassinii* ♀ ad. 163; 269; 89; 60; cul., 13; gape, 16; tars., 17.5; mte., 20.5; claw, 5.5.
- 4614. *Carpodacus purpureus californicus* ♀ ad. 155; 248; 79; 57; cul., 12; gape, 14; tars., 19; mte., 20; claw, 6.
- 4615. *Carpodacus purpureus californicus* ♀ ad. 155; 242; 78; 61; cul., 12; gape, 14.5; tars., 17.5; mte., 19; claw, 5.7.
- 4616. *Carpodacus purpureus californicus* ♀ ad. 154; 245; 80; 58; cul., 11; gape, 13; tars., 18.5; mte., 20; claw, 6.
- 4617. *Dendroica auduboni* ♂ ad. 145; 236; 79; 61; bill from nostr., 7.5; gape, 13; tars., 18.5; mte., 16; claw, 5.
- 4618. *Dendroica auduboni* ♂ ad. 143; 237; 77; 60; bill from nostr., 7.5; gape, 14; tars., 19; mte., 16.5; claw, 5.
- 4619. *Regulus calendula* ♂ ad. 117; 283; 62; 50; bill from nostr., 7; gape, 12.5; tars., 19.5; mte., 14; claw, 4.6.
- 4620. *Colaptes auratus mexicanus* ♀ ad. 317; 525; 164; 117; cul., 33; gape, 38; tars., 29; mte., 33; claw, 12. Irides dark reddish brown.

March 16th, 1886. Ft. Verde.

Harpobynchus crissalis. - Found a nest containing 3 fresh eggs, built in haw bush about 50 yards from the spot where the last was found. Nest + eggs preserved. Height from ground 5 feet.

- 4621. *Thryomanes bewickii leucogaster* ♂ ad. 143; 187; 59; 62; cul., 16; nostril 11; gape, 19; tarsus 17.5; mte 16; cl., 5.

- 4622. *Zonotrichia gambeli intermedia* ♀ ad. 174; 249; 81; 77; cul., 12.5; gape, 13; tars., 21.5; mte., 20.5; cl., 5.3.
- 4623. *Amphispiza bellii nevadensis* ♀ ad. 153; 237; 75; 70; cul., 10.5; gape, 12; tars., 20; mte., 18; claw, 5.
- 4624. *Junco ^{n. slaukeldti} ~~o. s. s.~~* ♀ ad. 154; 230; 75; 70; cul., 11.5; gape, 12; tarsus, 20; mte., 19; cl., 5.
- 4625. *Hylocichla umalashkai* ♂ ad. 174; 278; 92; 70; cul., 12; gape, 20; tars., 30; mte., 23.5; claw, 6.
- 4626. *Merula migratoria propinqua* ♀ ad. 262; 415; 139; 108; cul., 22; ~~bill~~ ^{nostr.} 14.3; gape 29; tars., 32; mte., 29; cl., 6.5.
- 4627. *Merula migratoria propinqua* ♀ ad. 268; 436; 143; 108; cul., 23; nostr., 14; gape, 30; tars., 33; mte., 29; claw, 7.
- 4628. *Porocetes gramineus confinis* ♂ ad. 160; 269; 85; 71; cul., 11.5; gape, 13; tars., 20; mte., 18; claw, 5.3.

March 18th, 1886. Ft. Verde, A. T.

- 4629. *Pipilo aberti* ♂ ad. 230; 290; 90; 111; cul. 15.5; gape, 16.5; tarsus, 30; mte. 29; cl. 9.
- 4630. *Zonotrichia gambeli intermedia* ♂ ad. 171; 250; 80; 80; cul., 12; gape, 13; tars., 22; mte., 23; cl., 6.2.
- 4631. *Zonotrichia gambeli intermedia* ♂ juv. 170; 250; 80; 76; cul., 12.5; gape, 14; tars., 23; mte., 23; claw, 6.
- 4632. *Sayornis nigricans* ♀ ad. 178; 284; 90; 79; culmen (about), 16; nostril, 10; gape, 20; tars., 18; mte 15; cl., 5.2; hte, 13; cl., 7. Irides, hazel. Bill, brownish-black. Tarsi, feet + claws, black. Fourth primary longest - but little longer than the 3rd.
- 4633. *Hylocichla umalashkai* ♀ ad. 168; 278; 92; 73; cul., 13.5; nostril, 8.5; gape, 20; tars., 27; mte., 21; cl., 5. hte., 15; cl., 6.5.
- 4634. *Spinus pinus* ♀ ad. 126; 223; 75; 50; cul., 11; gape, 12; tarsus, 14; mte., 16; cl., 5.
- 4635. *Spinus pinus* ♂ ad. 130; 228; 77; 53; cul., 11; gape, 11.5; tarsus, 13; mte., 17; cl., 6.
- 4636. *Spinus pinus* ♂ ad. 129; 232; 77; 54; cul., 11; gape, 12; tarsus, 14; mte., 16; claw, 5.
- 4637. *Spinus pinus* ♂ ad. 126; 233; 78; 52; cul., 11; gape, 11; tars., 14; mte., 16; cl., 5.3; hte., 13; claw of beak 5.

- 4638 *Carpodacus purpureus californicus* ♀ ad. 154; 250; 83; 66; cul., 11.6; gape, 13.6; tars., 18.5; mte., 20; claw, 5.2.
- 4639 *Carpodacus cassinii* ♂ ad. 168; 292; 98; 69; cul., 13; gape, 15; ~~14~~ tars., 18; mte., 21; claw, 6.
- 4640 *Carpodacus cassinii* ♂ im ~~ad~~ 164; 281; 92; 64; cul., 14; gape, 16.5; tars., 18; mte., 20.5; claw, 5.2.
- 4641 *Carpodacus cassinii* ♀ ad. 159; 275; 91; 65; cul., 12.5; gape, 15; tars., 18.5; mte., 21.5; claw, 6.
- 4642 *Junco ^{hyemalis} ~~hyemalis~~* ♀ ad. 160; 243; 79; 70; cul., 12.2; gape, 12.5; tars., 21; mte., 20; claw, 6.
- 4643 *Scolecophagus cyanocephalus* ♀ ad. 230; 380; 125; 96; cul., 20; gape, 22; tars., 30; mte., 27; cl., 6.5.
- 4644 *Scolecophagus cyanocephalus* ♀ ad. 238; 390; 128; 104; cul., 20; gape, 21; tars., ~~33~~ 33; mte., 28; claw, 7.
- 4645 *Merula migratoria propinqua* ♂ ad. 259; 417; 138; 108; cul., 23; noot., 14; gape, 27; tars., 33; mte., 30; claw, 6.5.
- 4646 *Merula migratoria propinqua* ♀ ad. 254; 423; 138; 105; cul., 21; noot., 13; gape, 27.5; tars., 33; mte., 30; claw, 8.
- 4647 *Merula migratoria propinqua* ♂ ad. 267; 432; 142; 112; cul., 22; noot., 14; gape, 30; tars., 36; mte., 32; claw, 7.
- 4648 *Merula migratoria propinqua* ♂ ad. 264; 430; 141; 110; cul., 22; noot., 13; gape, 28; tars., 34; mte., 30; claw, 6.

March 19th 1886. Ft. Verde.

Carpoolynchus crissalis. - I found two nests near the Post. One contained two (2) young about a week old; the other contained a single young one of about the same age. Both were built in hawk bushes. One 4 feet above the ground, the other only three (3).

Merius polyglottus. - A fine adult male was the first seen this year. Last year none were seen at Verde until I left for the Deming trip, on March 25th, when a number were first seen near Ash Creek.

Auriparus flaviceps. - A fine pair was taken the first seen this year. Last year they were

first seen March 26th on Ash Creek. A low twittering No. 337 *Tamias harrisi* ♂ ad. Testicles enormous. marble
 Total length, 255. Head and body to ~~occiput~~, 172. Tail to end vert., 80; to end hairs, 103; width, 47. Ears above crown, 7; ^{meatus,} notch, 12; width, 12. Chest girth, 95; between eyes, 22. From tip of nose to front teeth, 7; to eye, 17; to centre of pupil, 23; ear, 36; meatus, 37; tip ear, 48; occiput, 47; end outstretched hind leg, 247. Manus, 27; width, 8; longest claw, 6.2. Pes, 41; width, 10.5; longest claw, 6. Fore limb measured from coracoid, 65; from olecranon, 50. Hind limb from great trochanter, 96; from knee-joint, 71. Semen poured from the ^{prepuce} ~~penis~~ when shot, showing that they are now nesting.

No. 338 *Lepus sylvaticus arizonae*. ♀ ad. Total length, 370. Head and body, 330. Tail to end vert., ⁵³ 53; hairs, 80. Ears above crown, 78; notch, 65; width, 44. Between eyes, 31. Chest girth, 176. Tip of nose to front teeth, 8; eye, 38; centre pupil, 45; ear, 66; tip of ear, 144; occiput, 75; end hind leg, 490. Manus, 48; fore leg from olecranon 191; from coracoid, 140. Hind leg from head femur, 210; from knee joint, 158. Pes, 80. Longest whisker, 65. Contained two fortises about 2 inches in length.

- 4649 *Auriparus flaviceps* ♂ ad. 113; 172; 54; 52; cul., 9; gape, 9.3; tars., 15.5; mte., 13; cl., 4.
- 4650 *Auriparus flaviceps* ♀ ad. 110; 264; 53; 49; cul., 8.5; gape, 9; tars., 15; mte., 12.5; cl., 3.5.
- 4651 *Sayornis sayi* ♀ ad. 199; 337; 110; 88; cul., 18; noot., 12; gape, 23; tars., 20; mte., 18; cl., 6.5.
- 4652 *Oreoscoptes montanus* ♀ ad. 229; 320; 103; 97; cul., 20; noot., 14; gape, 26; The upper mandible is elongated and decurved extending 4 mm beyond the lower. tars., 30; mte., 25; claw, 6.

- 4653 *Poocetes gramineus confinis* ♂ ad. 165; 280; 92; 72; cul., 11; gape, 12; tars., 21.5; mte., 20; cl., 5.6.
- 4654 *Merula migratoria propinqua* ♀ ad. 258; 408; 132; 104; cul., 22; not., 14; gape, 29; tars., 34; mte., 27; claw, 6.5.
- 4655 *Merula migratoria propinqua* ♂ ad. 249; 398; 130; 102; cul., 21; not., 13; gape, 26; tars., 35; mte., 27.5; claw, 6.
- 4656 *Merula migratoria propinqua* ♀ ad. 260; 420; 136; 109; cul., 22; not., 15; gape, 29.5; tars., 34; mte., 30; claw, 8.

Skulls:

- No. 349 *Felis Lynx rufus maculatus* ♂ ad. Davis's Ranch 4 miles south of Ft. Verde, Arizona. Febr. 19, 1886. Skull (broken) only preserved.
- No. 350 *Lepus Texianus*. ♀ ad. Phoenix, Arizona. March 7, 1886. Killed by Mr. Hutchinson. Skull only.
- No. 351 *Lepus texianus*. ♂ ad. Phoenix, Arizona. March 7th, 1886. Killed by Mr. Hutchinson. Skull only.
- No. 352 *Lepus texianus*. ♂ ad. Cibola Creek, Arizona. Oct. 9th, 1884. Skull only.
- No. 353 *Lepus texianus*. ♂ ad. Pine Spring, near Grand Cañon of Colorado, Nov. 15, 1884. Skull ^{piece of skin} only.
- No. 354 *Lepus texianus* ♀ ad. Ft. Verde, Ariz. Nov. 12, 1885. Skull only preserved.
- No. 355 *Sciurus arizonensis*. ♂ ad. Skin + skull. Fossil Creek Arizona. March 18th, 1886. Stewart Daniels
- No. 356 *Sciurus arizonensis*. ♂ ad. Skull + scalp. Fossil Creek Arizona. March 18th, 1886. Stewart Daniels
- No. 357 *Sciurus arizonensis*. ♂ ad. Skull + scalp. Fossil Creek, Arizona. March 19, 1886. Stewart Daniels
No. 355. measured, in skin, from tip of nose to tail, 330. Tail to end of hairs, 400. Total length 700. Ears above crown 27; width, 23.
- No. 358 *Felis Lynx rufus maculatus* ♀ juv. Kila River near Sub Agency. January 10, 1886. Stewart Daniels
- No. 359 *Lepus columbianus*. Sulphur Spring Valley, A.T., ♂ ad.
- No. 360 *Lepus columbianus* at head of Arivapai Creek, near Grant ♀ ad.
- No. 361 *Lepus texianus* ♀. Sulphur Spring Valley, Ariz. at head of Arivapai Creek. (near Fort Grant). All Jan 30, 1886

March 20th 1886. Ft. Verde, Ariz.

- No. 339 *Tamias harrisi* ♂ ad. } Putting.
- No. 340 *Tamias harrisi* ♀ ad. } Sent to Am. Mus. in packet

The measurements are given together.
 Total length, 255, 250; Head and body, 170, 162; Tail to end of vert., 79, 75; to end hairs 99, 97. Ears above crown, 6.5, 6; ^{above meatus}, 12, 11; width, 12, 11.4. distance between eyes, 20, 22; chest girth, 95, 93; from tip of nose to front teeth 6.5, 6; to eye, 18, 16.5; central pupil, 22.5, 22; ear, 34, 34. meatus, 35.5, 35. tip ear, 44, 44; occiput, 46, 45; end hind leg, 245, 238. Manus, 26, 23; width, 6.6, 7; Forelimb from olecranon, 49, 45; from coracoid, 71, 66; Hind limb from head of femur, 93, 90; from knee-joint, 70, 67; Pes, 40, 37.5; width, 9, 9. Longest fore claw, 6, 6; Longest hind claw, 5.6, 5.5. Longest whiskers, 40, 40.

No. 340 contained six (6) foetuses, about the size and shape of a small grape. Sent to the Army Medical Mus. as a spec. of comp. embryology.
 No. 341. *Lepus sylvaticus arizonae*, ♀ ad. Total length, 410. Head + body, 360. Tail vert, 58. hairs, 60. Ears above crown, 84; notch, 64; width, 55. Between eyes 35. Chest girth, 195. Tip of nose to front teeth, 10; eye, 32; centre of pupil, 47; ear, 67. Tip of ear, 155; occiput, 79; end hind leg, 555. Fore limb from shoulder, 165; from olecranon, 118. Manus 52. Hind limb ~~250~~ from head femur, 250; from knee, 184. Pes, 98. Longest whiskers, 65. Contained 3 young.

- No. 342 *Tamias harrisi*. ♀ ad.
 - No. 343 *Tamias harrisi*. ♂ ad.
 - No. 344 *Tamias harrisi*. ♂ ad.
- Measurements given together in consecutive order.
 Total length, 255, 256, 260; Head and body, 157, 168, 175; Tail to end vertebrae, 86, 86, 88; to end hairs, 109, 108, 111; Ears above crown, 5.5, 6, 6.5; above meatus, 10, 12, 11.5; above notch, 10, 12, 11.5; width, 10.5, 12, 12;

Longest whiskers, 37, 40, 38; Between eyes, 20, 23, 22; Chest girth, 85, 95, 100; From tip of nose to front teeth, 5, 5.6, 5.7; to eye, 18, 18, 19; centre of pupil, 23, 23, 23.5; ear, 35, 37, 37; meatus, 36, 37, 37.5; tip of ear, 43, 44, 45; occiput, 45, 46, 48; end hind leg, 230, 245, 250; Fore limb from head of humerus, 70, 70, 68; from olecranon 49, 52, 50; manus, 24.5, 28, 25; width, 7.3, 7, 8; Hind limb from head femur, 89, 95, 95; from knee, 68, 72, 71; Pes, 40, 41, 41; longest fore claw, 6, 8.6, 7; longest hind claw, 5.5, 6, 6; width of tail, 50, 46, 48; width of hind foot, 9, 10, 12.

March 22nd 1886.

No. 345.

Tamias harrisi ♀ ad. Total length, 247; head + body, 159; tail to end of vertebrae 80; to end of hairs, 100; Ear above crown, 6; above meatus, ~~12.4~~; above notch, 12.4; width, 12; between eyes, 19; longest whiskers, 34; chest girth, 95; from tip of nose to front teeth, 5.5; to eye, 17; centre of pupil, 23; to ear, 36; meatus, 36; tip of ear, 45; occiput, 45; end of hind leg, 246; fore limb from head of humerus, 69; from olecranon, ~~48~~⁴⁸; manus, 27; width, 7; hind limb from head femur, 93; from knee, 75; Pes, 40; width, 9; longest fore claw, 6.4; longest hind claw, 5.2; width of tail, 48.

Empidonax pyrocephalus rubinus mexicanus.

Two old males seen to-day. Hovering and fluttering in the air & singing. The first seen.

Stelgidopteryx serripennis. - One. The first seen since those at Peck's Lake.

Mergus merganser americanus. - Flock of seven. Five were old males. They sat on a sand island; first took to the water & then flew.

No. 346 *Lepus sylvaticus arizonae* ♀ ad. } Sk. + skull
 No. 347 *Lepus sylvaticus arizonae* ♀ ad. } Measurements taken together, consecutively.
 No. 348 *Lepus sylvaticus arizonae* ♀ ad. } Sk. + skull only preserved.
 Total length, 405, 395, 405; Head and body, 350, 345, 355; Tail to end vert., 48, 55, 47; hairs, 75, 80, 70; Ear,

height above crown, 85, 83, 82; above notch, 67, 68, 66; width, 44, 48, 47; tip of nose to front teeth, 9, 8, 8; to eye, 39, 43, 39; centre of pupil, 47, 51, 48; ear, 68, 66, 65; tip of ear, 152, 155, 145; occiput, 75, 74, 75; end of hind leg, 540, 540, 530; Between eyes, 34, 33, 32; Chest girth, 195, 185, 175; Fore limb from shoulder, 158, 158, 149; from olecranon, 110, 115, 105; manus, 50, 51, 48; Hind limb from head of femur, 238, 240, 233; from knee, 170, 175, 164; Pes, 93, 93, 90; Longest whiskers, 70, 74, 80.

No. 346 Contained 3 foetuses.

No. 347 was not pregnant.

No. 348 Contained 4 foetuses, the largest number yet ascertained. Sent to Army Med. Museum.

4657. *Merula migratoria propinqua* ♂ ad. 260; 437; 140; 110; cul., 23; nost., 13.3; gape, 30; tarsus, 36; ntc., 32; Cl., 8.5. Irides, hazel. Bill, yellow tipped with brownish-black. Tarsi, feet and claws, brown.

4658. *Hylaeicla unalashkensis* ♂ ad. 175; 277; 90; 73; cul., 14; nost., 9; gape, 19; tars 29.5; ntc, 22; cl., 5.6.

March 23rd 1886. Ft. Verde, A. T.

Tachycineta - One seen. Sp. not ascertained.

4659 *Carpodacus purpureus californicus*. ♂ ad. 156; 248; 79; 62; cul., 12.6; gape, 13.5; tarsus, 18; ntc 20; cl., 6.2.

4660 *Carpodacus purpureus californicus*. ♂ ad. 159; 254; 81; 64; cul. 12.5; gape 14; tars. 19; ntc, 21; cl. 6.5;

4661 *Carpodacus purpureus californicus*. ♂ ad. 158; 257; 83; 64; cul., 12.8; gape, 13.6; tarsus 19; ntc 20; cl., 5.7.

4662 *Carpodacus purpureus californicus*. ♀ ad. 156; 245; 78; 63; cul., 11.5; gape. 13; tarsus, 17; ntc, 19.5; cl., 6.

4663 *Carpodacus purpureus californicus*. ♀ ad.
155; 250; 80; 62; cul., 12; gape, 14; tars 18.5
mtc, 20; cl., 5.2

4664 *Carpodacus calderi* ♂ ad. 171; 283; 95; 67
cul., 12; gape, 14; tars 19; tars 20. cl. 6.

4665 *Carpodacus calderi* ♂ ad. 170; 285; 96; 66;
cul., 13; gape, 15; tarsus 19; mtc 20; cl. 5.

4666 *Spinus pinus* ♀ ad. 126; 232; 77; 49
cul., 11.3; gape, 11.5; tarsus 13; mtc, 16; cl. 5.

4667 *Spinus pinus* ♀ ad. 132; 229; 76; 52;
cul. 11; gape, 11.5; tarsus, 14; mtc 15.5; cl 4.5

4668 *Merula migratoria propinqua* ♀ ad. 272; 420; 140; 119
cul., 21.5; nott, 13.7; gape, 26; tars 31; mtc 29.5; cl 7

No. 1 *Cerosternon* sp. - ? This, the common mud
turtle of the Verde and its tributaries is the first
one I have seen basking in the sun this spring.
There are two ovaries, each containing eggs in
various stages of development. About a dozen
were of the size of peas and would have been
oviposited this spring. I sawed the carapace off,
partly skinned the specimen and put it in
pickle for shipment to the American Museum.

March 24th 1886. Ft. Verde, A.T.

4669 *Scolecophagus cyanocephalus* ♂ ad. Died in
our yard! 259; 418; 138; 108; cul., 22.5;
gape, 25; tarsus, 35; mtc, 32; cl., 8.

Tachycineta thalassina. - First positively
identified. Some seen may have been *T. bicolor*.
Melospiza lincolni. - One shot, but fell into the
service and floated beyond reach. I followed
it over a mile without being able to recover it.

March 25th 1886. Ft. Verde, A.T.

Tachycineta thalassina. - Flocks of Swallows
are now present. Among them there may
be some of *Tachycineta bicolor*.

Tachycineta thalassina. Erect and gaunty
in appearance, this little soldier guards
the shaded waters. He stands sentry upon
some prominent position and challenges
all comers. I always feel like propitiating
this little dignitary in some way before
venturing to trespass upon the domain.
Carpodacus purpureus californicus. - Singing
sweetly and gleaming in small flocks among
the tender foliage of the cottonwoods.

Spinus pinus. was not seen to-day. They
have departed for the mountains. 2 shot on Mar. 23.
Tayornis sayi. - Two nests, one at the
Hospital and one under Capt. Baldwin's porch
have been apparently finished for a week
or more; but no eggs have yet been laid.

No. 362. *Lepus sylvaticus arizonae* ♀ ad.
Total length, 390; Head and body, 345; Tail to end
vert., 50; hair, 73; Ears above crown, 84; above
notch, 65; width, 49; Tip of nose to front
teeth, 7; eye, 38; centre of pupil, 46; ear, 64;
tip of ear, 148; occiput, 77; hind hind leg, 545;
Between eyes, 36; longest whiskers, 77;
Chest girth, 195; Fore limb from head of humerus
(Coracoid), 154; from olecranon, 103; manus, 49;
Hind limb from head femur, 235; from knee,
174; pes, 95.

4670 *Carpodacus purpureus californicus*. ♂ ad.
159; 253; 83; 65; cul., 13; gape, 14.5; height of bill
at base, 9; width 8.3; tars, 17; mtc, 19; cl., 6.
Second and third quills longest & exactly equal.
The 1st a bare trifle shorter than the 4th.

In the following specimen the 3rd quill is just
perceptibly the longest, the 1st appreciably
shorter than the 4th.

4671 *Carpodacus purpureus californicus* ♂ ad.
160; 254; 83; 65; cul., 13; gape, 15; tars
18; mtc, 19; cl., 5.

1 Grass with only the seed

- 4672 *Crocoptes montanus* ♀ ad. 215; 305; 95; 89; cul., 20; nost., 12.5; gape, 26; tars., 32; mte., 23.5; cl., 6. Irides, yellow.
- 4673 *Poëcetes gramineus confinis* ♂ ad. 162; 272; 85; 68; cul., 11.5; gape, 12.6; tars., 23; mte., 20; claw, 5.5.
- 4674 *Carpodacus frontalis* ♀ Red on throat & rump. 153; 241; 77; 65; cul., 10.5; gape, 11.5; tars., 17.5; mte., 19; claw, 5.
- 4675 *Carpodacus frontalis* ♂ immature. 154; 246; 80; 66; cul., 11; gape, 12; tars., 17; mte., 19; claw, 5. Some red, but dull.
- 4676 *Carpodacus cassinii* ♂ juv. 170; 283; 94; 68; cul., 13; gape, 14; tars., 19; mte., 22; claw, 6.2.
- 4677 *Dendroica auduboni* ♂ (ad?) 149; 230; 76; 60; nost., 8; gape, 14; tars., 18; mte., 16; claw, 5.
- 4678 *Carpodacus cassinii* ♀ ad. ^{sex positively} 172; 293; 96; 69; cul., 13; gape, 15; tars., 18; mte., 21; claw, 6.
- 4679 *Carpodacus cassinii* ♀ ad. 168; 280; 92; 67; cul., 12.5; gape, 14; tars., 18; mte., 20; claw, 5.
- 4680 *Carpodacus cassinii* ♀ ad. 159; 270; 90; 64; cul., 11; gape, 13; tars., 17; mte., 19; claw, 5.6.

March 26th, 1886. Ft. Verde.

- 4681 *Amphispiza bilineata* ♂ ad. 142; 215; 69; 68; cul., 11; gape, 11; ^{height of bill at base, 6.3; width at base, 6.3; tip of bill to occiput, 29; base of bill to occiput, 20; tars., 18.5; mte., 17; claw, 4.5; mte., 12; claw, 5.6.}
- 4682 *Zonotrichia gambeli intermedia* ♂ ad. 179; 257; 84; 80; cul., 11.5; gape, 12; tars., 22; mte., 23; cl., 6.

Amphispiza bilineata was first heard March 23rd, but none were seen until to-day, when one was seen early in the morning and was singing vigorously. Before night dozens of them were singing all about the post, although but the one was found in a long walk in the early morning.

Stelgidopteryx serripennis. - They alight upon dry branches beside the Verde and spend less time upon wing than other Swallows.

March 27th, 1886. Ft. Verde.

Cypselus saxatilis. - A flock of about a dozen, the first seen, was observed.

Petrochelidon lunifrons. - The advance guard of Cliff Swallows arrived at the Post last night; for, when I went over to the Hospital, at surgeon's call, they were flying up under the eaves of the soldiers' quarters & storerooms where hundreds of them bred last year. This leads to the supposition that these first spring migrants are those that bred here last season & intend to do so again.

Helminthophaga luciae. - The one shot to-day was the first seen. Was in company with ^{many}

Regulus calendula. - Singing.

Carpodacus californicus. - Only one or two females were seen to-day.

Carpodacus cassinii. - One female shot from a small flock. No males of either species; and all of the Pine and Goldfinches have departed from the cottonwood grove beside the Verde River where they have abounded of late.

Melospiza lincolni. - One seen on the sluice.

Hylaeichla unalaschae. - One seen in a mesquite-flat.

Note on *Castor fiber canadensis*: - A few days ago a female Mallard (*Anas boschas*) flew from a beaver-felled cottonwood whose branches drooped in the water beyond a pile of driftwood. As I had been within a few feet of the spot for a quarter of an hour without noticing the Duck, I suspected that it had a nest among the driftwood. Accordingly I scrutinized the spot to-day with

grass with very no seen wood...

particular care from the opposite bank of the sluice, when I descried a large Beaver sitting beneath the tree-trunk upon the debris. He had evidently been driven out of his home by the very high water of the rising stream and had sought concealment in this shady spot.

I visited the spot later in the day. He had returned to the place, but only his head was out of water and that nearly concealed by the brushwood, so that I did not catch sight of him in time for a shot. When seen at first I could easily have killed it had my gun been loaded for such tough game, but he was gone before I could make the exchange of cartridges.

Merula ^{polyglottus} californensis. - A second one seen today.
Carpodacus crissalis. - Two nests, one containing one and the other three good sized young were found. These make seven nests found this season. The parents of one nest did not come about the nest after I found it, although I made a squeaking call on purpose to attract them and had seen them about a few moments before. I took one of the three young.

The parents of the other nest came fearlessly for the uttering a sharp clucking note like the Mockingbirds, and a few notes of its song at frequent intervals, although greatly distressed. I have noticed this song expression in several other pairs, that were quite as much distressed and anxious as these were. A nest was found yesterday that contained one egg.

4683 *Carpodacus crissalis* ♀ pullus. Taken from nest containing three young, built in a dense haw-bush. Head with superciliary rows of downy tufts with crown of

smooth feathers between them.

4684. *Hedimithophaga luciae* ♂ ad. 114; 179; 58; 47; cul., 10; rostr., 6.5; gape, 11; tars., 16; Mte., 14; claw, 3.5.

4685. *Dendroica coronata* ♀ ad. 143; 224; 73; 62; cul., 11; rostr., 8; gape, 14; tars., 19; Mte., 16; claw, 5.

4686. *Proccetes gramineus confinis* ♂ ad. 162; 275; 87; 70; cul., 11.5; gape, 13.5; tars., 22; Mte., 20.5; claw, 5.5.

4687. *Proccetes gramineus confinis* ♂ ad. 165; 266; 84; 70; cul., 11; gape, 13; tars., 20.5; Mte., 20; claw, 5.8.

Junco oregonus. - Three were feeding upon the parade in front of my quarters, and were the only ones seen.

Junco dorsalis. - The last one seen was shot too badly for preservation on March 23. None had been noted before since March 8, when the last of the remarkable flight preceding that date. I left for Jerome on the 8th & only the one above noted has been seen since. Mrs. Mearns saw them on the parade as usual the day we left, but none afterward, showing that the species departed suddenly, instead of lingering in the valley, as have the Purple Finches (*C. californicus et cassinii*) and Pine Finches (*Spinus pinus*). Other birds driven into the Valley by stress of weather were *Cyanocitta stelleri macrolopha* and *Pipilo maculatus megalonyx*.

March 28th 1886. Ft. Verde, Arizona.

4688 *Auriparus flaviceps* ♂ ad. 114; 174; 56; 5.3; cul., 9; gape, 8.6; tarsus 15; mte. 12.3; cl. 3.8. This little bird uttered a sharp chirp like a Junco, sang a twittering song and scolded irately when approached.

4689 *Lophortyx gambeli* ♀ ad. Shot on the wing with the little gun. It had lost a leg, but associated in a flock of its fellows. I did not see it on the ground.

280; 374; 116; 100; cul., 11; no. 8; gape, 14; tars., 31; mte., 36; claw, 9.

4690. *Procyon gramineus confinis* ♀ ad. 153; 255; 79; 62; cul., 11.5; gape, 12; tars., 21; mte., 19; claw, 5. March 29th 1886;

4691. *Pipilo maculatus megalonyx* ♂ ad. ²²²222; 293; 89; 108; cul., 14; gape, 16; tars., ²⁷27; mte., 28; claw, 9; hind claw, 12.

4692. *Regulus calendula* ♀ ad. 111; 181; 60; 47; no. 6; gape, 12; tars., 19; mte., 12.5; claw, 4.

4693. *Helminthophaga luciae* ♂ ad. 113; 181; 60; 47; no. 7; gape, 11; tars., 15.5; mte., 13; claw, 3.5.

4694. *Parus wollweberi* ♀ ad. 126; 202; 64; 60; cul., 8.5; gape 9.8; tars., 16.5; mte., 14.6; claw 4.7.

4695. *Parus wollweberi* ♂ ad. 132; 210; 67; 62; cul., 9; gape, 10; tars., 16.5; mte., 15; claw, 5.

4696. *Parus wollweberi* ♀ ad. 129; 207; 66; 60; cul., 8.8; gape, 9.9; tars., 17.8; mte., 15; claw, 4.7.

4697. *Parus wollweberi* ♀ ad. 128; 201; 65; 60; cul. 8.6; gape, 9.8; tars. 17; mte. 15; cl. 4.5.

4698. *Clancidium gnoma* ♂ ad. Fossil Creek, Arizona. Killed by Stuart Daniels. A pair probably had a nest in a hollow limb of a large oak, which Daniels was unable to climb. 178; 355; 99; 73; cul. + cere, 13; cere, 3.5; cul., 10; gape, 14; tars., ²⁰20; mte., 23; inner claw, 10; middle claw, 10.3; outer claw, 8.5; hind claw, 8. Irides, yellow. Stomach contained several lizards only.

March 30th 1886 Ft. Verde, Ariz.

- Cathartes aura*. - First seen. - One.
- Troctilus alexandri*. - Two first seen.
- Micropus melanoleucus*. - Abundant.
- Mergamus americanus*. - Two seen.
- Anas carolinensis*. - Four seen.
- Anas boschal*. - Two seen.
- Zonotrichia quer.* - Several seen.
- Amphispiza bilineata*. - Now abundant.

No. 363. *Sciurus arizonensis* ♂ ad. Skin perfect (in pickle) and skull. Shot at Fossil Creek, Arizona March 27, 1886, by Stuart Daniels. No measurements taken.

No. 364. *Sciurus arizonensis* ♂ ad. Skin + skull as above, except date of capture - March 29th, 1886.

No. 365. *Sciurus arizonensis* ♀ ad. Skin + skull as above. Captured March 29th, 1886.

No. 366. *Spermophilus grammurus* ♀ ad. Skull and hunter's skin. Fossil Creek, Arizona. March 27th 1886. Stuart Daniels. No measurements, taken in the flesh.

No. 367. *Spermophilus grammurus* ♀ ad. Skull and hunter's skin as above. Mar 27.

No. 368. *Procyon hernandezii* ♂ ad. A fine specimen except the loss of left hind foot in a trap. No measurements taken in the flesh. Skull and os penis preserved. Skin perfect (except foot) in pickle. Mar. 29, 1886. This skin rotted in pickle. Bones of extremities preserved.

April 2nd 1886. Ft. Verde, A. T.

Rode to Montezuma's Well to see a patient near there. There were about fifteen Water Birds upon the well, where I watched them unsuspectingly swimming about and diving. Some were drying or preening their feathers upon projecting logs. Among them were 1 *Podilymbus podiceps* that afterwards hid & could not be found.

1 *Aythya americana*. An old male was observed to be a very expert diver, and so loth to leave the pool that it remained behind when all of the other ducks departed. He was wounded and became so swimming that it was impossible to obtain a second shot at him. He would swim nearly under water, rising beneath the floating grass with only its head visible. Once he hid in the grass upon the bank when I nearly trod upon him. He was finally shot in the grass with only his head above the surface.

4699 *Aythya americana* ♂ ad. 500; 840; 240; 66; bill from frontal feathers, 46; from extreme base, 57; nostr., 32; gape, 58; height of bill at base, 27; width, 22; bare tibia, 13; tars., 43; mte., 72; claw, 9; hte., 23; claw of hallux, 4.

Iris orange yellow. Bill, light bluish gray black at base and tip - subterminally banded with whitish. Legs and feet, gray - webs + joints dusky. claws blackish.

4700. *Erismatura rubida* ♀ ad. 378; 570; 148; 87; bill from frontal feathers 42; from extreme base, 49; nostr., 24; gape, 50; height of bill at base, 21; ^{greatest} width, 25; bare tibia, 12; tars., 35; mte., 65; cl., 8.5; hte., 19; cl. of hallux, 4.

4701. *Mareca americana* ♂ ad. 500; 860; 263; 114; bill from frontal feathers, 36; from extreme base, 42; nostr., 27; gape, 44; height of bill at base, 18; width, 20; bare tibia, 13; tars., 41; mte., 50; claw, 7; hte., 14; claw, 5.

4702 *Mareca americana* ♀ ad. 470; 830; ⁽²⁵²⁾ 105; bill from frontal feathers 37; from extreme base, 42; nostr., 28; gape, 42; height of bill at base, 17; width, 17; bare tibia, 13; tars., 39; mte., 51; claw, 8; hte., 13; claw, 4.

There were two *Erismatura rubida*. - They were gentle but such expert divers that I had some difficulty in killing one. They were very friendly and fond of the company of the other ducks and geese. Several times one would rise and flap heavily across the pool, each time drubbing the water with its wings like a loon (*Fulica*) of which there was one pair upon the well. They swam about with the ducks and often climbed out and sat upon a log in the sun. Finally they both crept into some tules and could not afterwards be found.

Mareca americana. - The Widgeons were the shyest of the ducks on the well. Two were sitting upon a log. I fired + killed one. Several large Turtles (the common Musk Turtle of this region) immediately seized it and pulled it under water. As I was at a distance I supposed that it was wounded

and diving; but at length went to pick it up and found several turtles of unusually large size pulling at it and fighting savagely for it. They had eaten all of the meat off of its breast + the water was covered with its feathers.

Sagila acuta. - Several seen on Beaver Creek.

Podilymbus podiceps was only seen in the Well. They are seldom found in swift waters.

Falco peregrinus anatum. - When I fired the first shot at the Well, one flew screaming from a ledge of rocks and did not return.

Salpinctes obsoletus. - Abundant and noisy

Cathartes mexicanus conspersus. - At the Well these two vultures were diving in some numbers

One Rock Wren sat in a Cedar tree to sing. The song of the White throated Wren is remarkably

Salpinctes obsoletus. - Several were seen at the Well. The first seen this spring.

Melospiza fasciata montana. - One pair at Well + *Dendroica aestiva*. One on Beaver Creek first seen

Helminthophaga luciae. Abundant. Singing

Amphispiza bilineata. - A pair have a nest nearly finished externally, near the Well.

Pearlthreuthra crissalis. - Nest + 3 eggs later near Montezuma's Well, in haw-bush. The nest was unusually bulky and presented a uniformly bristling array of thorns.

Mimus polyglottus. - One seen.

Amphispiza bilineata. - Everywhere singing.

Dumetia oregonus. - Still very numerous.

Spinus pinus. - A small flock feeding in willows beside an aspen. Calling loudly and restlessly.

Canthocephalus heterocephalus. - Two seen in the Post Corral at Verde. First seen.

April 3rd 1886.

No. 369. Lepus texianus ♂ ad. Total length, 595;
 Head and body to os ischium, 510; Tail to end vert., 95.
 hairs, 130. Ears above crown, 155; notch, 130; width,
 90; Tip of nose to front teeth, 12; eye, 56; centre of
 pupil, 65; ear, 91; tip of ear, 263; occiput, 110; end of
 hind leg, 790; Between eyes, 45; Chest girth, 285;
 Longest whiskers, 123; Fore limb from Coracoid, 260;
 from olecranon 200; Manus, 75; longest claw
 of manus 8.6; Hind limb from head of femur, 355;
 from knee, 270; Pes, 145; longest hind claw, 11.

No. 370. Spermophilus grammurus ♂ ad. } Measurements length
 No. 371. Spermophilus grammurus ♂ ad. } consecutive days.
 Total length 535, 490; Head and body to os ischium, 300, 260; tail
 to end vert., 247, 182; to end hairs, 255, 225; width, 120, 100;
 Ears above crown, 20, 18; notch, 28, 27; width,
 21, 19; Tip of nose to front teeth, 10, 8; eye, 29, 26;
 ear, 55, 55; meatus, 57, 56; tip of ear, 80, 80.
 occiput, 68, 68; end hind leg, 400, 375; fore limb
 from coracoid 117, 103; from olecranon, 85, 78;
 Manus, 40, 37; longest fore claw, 8.5, 8;
 Hind limb from head of femur, 150, 138; from knee,
 113, 102; Pes, 61, 55; longest hind claw, 8, 7;
 Chest girth, 160, 160; between eyes, 35, 30; longest
 whiskers, 51, 57; Tip of nose to center of pupil, 36, 34.
 Stomachs filled with leaves, mostly susilera.

Querquedula cyanoptera. - A female shot on
 Montezuma Well. Sby.

Carpodacus cassinii. - One old male on Beaver
 creek near the Well.

Astragalinus tristis. - About a dozen in a flock
 at Shell's rancho on Beaver creek.

Anas boschas. - Two on Beaver creek.

4703 Anas cyanoptera ♀ ad. 408; 640; 190;
 87; cul. from frontal feathers, 41; from extreme base, 50;
 not., 33; gape, 50; height of bill at base 16; width
 greatest width 20; bare tibia, 12; tars., 33; mte., 45;
 cl., 7; hte., 13; claw of hallux, 4. Irides, reddish brown.
 Bill dusky purplish brown, spotted with purplish flesh

color below. Legs + toes, yellowish olive webs and
 claws dusky.

4704 Gallinago delicata ♀ ad. Length to end of
 claws, 396; 265; 425; 133; 60; cul., 65; gape,
~~63~~ 63; from head of tibia to end of middle claw, 108;
 tibia, 146; bare portion, 13; tars., 30; mte., 33; cl., 5.2;
 hte., 10; claw of hallux, 3.

4705 Gallinago delicata ♀ ad. Length to end of
 claws, 340; 286; 448; 136; 65; cul., 65; gape,
 65; from head of tibia to end of middle claw, 125;
 tibia, 56; bare portion, 15; tars., 33; mte., 38; cl., 6.5;
 hte., 11; claw of hallux 3.5.

4706 Gallinago delicata ♂ ad. Length to end of
 claws, 342. 289; 433; 129; 62; cul., 69.5; gape,
 67; from head of tibia to end of ^{middle} claw, 120; tibia,
 54; bare portion, 15; tars., 32; mte., 37; cl., 7;
 hte., 12; claw of hallux, 4.

The ~~yellow~~ ^{red winged} blackbirds were heard today
 singing their song (Quonk-a-ree) for the first.
Pandion haliaetus carolinensis first seen.

April 4th 1886. Fort Verde

Rode to Montezuma's Well + back and then
 to Parson Bristow's, getting home at dusk,
 after riding 34 miles.

Buteo borealis. - Rode beneath an adult
 sitting in a sycamore on Beaver. It was
 remarkable for having an immaculate white under
 surface (except chin).

Sayornis sayi. - The pair at Hoppel laid
 their first egg to-day.

Mimus polyglottus. - Now quite common
Lanius ludovicianus excubitorides. Found
 a nest about completed in centre of
 a dense mesquite.

Anas boschas. - Two seen
Merganser americanus. - One pair on Verde River

Note: Mr. Frank Andrews saw two Sand Hill Cranes (*Grus canadensis*) flying north March 19th 1886. They circled about over the flat near his blacksmith shop and then seeing some suspicious object, concluded not to alight. They are the first Mr. Andrews has seen here.

I saw a wing of a Crane killed at the Conyer Mill on the Verde 9 miles north of this Post. When we reached Banhart's when coming into the Territory in March, 1884, Mr. B. told me that several had been seen about there for several mornings previously.

- 4707 *Tyrannus verticalis* ♂ ad. ad. 227; 405; 133; 100; cul., 21; nost., 13.5; gape, 27; width below nostril, 8.7; tars., 18; mte., 21; claw, 6.7. Irides, hazel. Stomach contents grasshopper.
- 4708 *Tyrannus verticalis* ♂ ad. 227; 415; 135; 103; cul., 20; nost., 14; gape, 27.5; width below nostril 8.5; tars., 18.5; mte., 21; claw, 7.
- 4709 *Pyrrocephalus rubinus mexicanus* ♂ ad. 145; 255; 84; 63; cul., 12.8; nost., 8.5; gape, 17.5; width below nostril, 5.5; tars., 16; mte., 15; claw, 5. Irides, hazel.
- 4710 *Pyrrocephalus rubinus mexicanus* ♀ ad. 146; 250; 83; 62; cul., 13.6; nost., 10; gape, 17.5; width below nostrils, 5.5; tars., 15; mte., 14; claw, 5.
- 4711 *Accipiter fuscus*. ♀ immature. 352; 675; 210; 172; cul. + cere, 19; cere, 8.5; cul., 12; gape, 18; tarsus, 57; mte., 45; cl., 11. Irides, yellow. Stomach empty.
- 4712 *Sturnella neglecta* ♀ ad. Yellow scarcely invaded jaw 237; 385; 115; 76; cul., 29; gape, 31; tarsus, 38; mte., 32; cl., 8.
- 4713 *Trimmulus sparverius* ♂ ad. 266; 580; 196; 134 cul. + cere, 15.5; cere, 4; cul., 12; gape, 17; tarsus, 36; mte 31; cl., 10. I found this bird on my woodbox on the porch, where some person had left it for me. Its feet and claws were covered with blood. A feather of *Zonotrichia intermedia*. This is the first instance of its killing birds for food that I remember to have noted.

April 7th 1886. Ft. Verde, Arizona

To-day Mr. J. D. Todd and party returned from hunting in the Mogollon Mts. They brought me ^{skulls of} 5 Lions, 1 Coyote, and heads of 5 Antelope besides a curious horn and inferior maxilla of another Lion (*Felis concolor*) and 3 sets of Mule Deer's horns. They went through the Red Rock Country then up on the rim-rock around Stoneman's Lake, where there were thousands of ducks and a few geese, beside White-headed and Golden Eagles in all stages of plumage. They crossed the divide of the Mogollon Mts. and encamped in a somewhat level, less broken country than this slope, extending to the Little Colorado River. They encamped pretty low down, about 2 miles above cedar timber and soon struck Lion signs. They poisoned four upon the carcasses of deer and antelope. Jagge Brothers sheep ranche was not far away and the Lions were killing a good many sheep. An old ram had been dragged into a crack in a cañon, where Mr. Todd's partner found it one morning, and soon saw the Lion, a very large old male lying close to the top wall of the cañon. He fired with a Sharp's rifle, the bullet falling a little low and knocking off some pieces of the soft limestone. The lion "pluttered and spit" but held his ground until, after several shots were fired when one struck his fore paw. He sprang high up in the air with a loud yowl and ran away. The hunter returned to camp for more ammunition and then followed the trail for about a mile. Mr. Todd circled around and headed the Lion and distracted his attention. Meanwhile his partner got within a few yards of the beast without knowing it. When the Lion and hunter were mutually aware of each others presence both were about equally alarmed. The man

raised his rifle and aimed at the creature's head but, fortunately for me in that it saved one of my finest skulls, the bullet only passed through the muscles of the cheek. The lion then wasted precious time by trying to scale a perpendicular cliff and the hunter, finding a cowardly adversary soon plucked up courage and shot it dead!

The day they left camp, they struck a fresh lion-trail and followed it at least four miles across country, over a thin crust of snow. It ran all the way without stopping and they left it, after poisoning the carcass of a horse which the lion stopped to eat upon.

During several years spent in hunting lions and other animals these parties never knew a lion to run any great distance before; and they do not regard them as at all dangerous unless wounded and cornered.

Maximilian's "Nutcrackers" they call "Camp Robbers" and said they were abundant, in large flocks all over the Mogollons and think they breed there. They would fly before the hunters for miles making such a din that they were obliged to kill some of them to rid themselves of their disagreeable company. They steal venison from camp and eat the offal from deer dressed in the woods.

They found a small village of prairie dogs (*Cynomys columbianus*) near the top of the Mogollon Mts., close to the snow which still covers the divide.

Taxidea americana (berlandieri?). - A Badger was holed and a trap set but he did not come out during several weeks that they were in camp.

The only small mammals seen were *Tamias asiaticus quadrivittatus* and *Sciurus aberti*, both of which were abundant. No Bear signs were seen on the entire trip. But one Fox (*Urocyon*) was seen.

Daggs Brothers have the skin of a yellow-haired Porcupine, the only one they saw.

Only two skunks were poisoned, and both *Mephitis mephitis*.

Tyrus oregonus. - Several seen.

Pipilo fuscus mesoleucus. - Singing in the Hospital yard. Lives in a rocky hillside below Hospital.

Mimus polyglottus. - Now common.

Note on *Lutra Canadensis*: -

Mr. Stuart Daniels told me of a man on Upper Salt River who killed five (5) in 1855 near Archie Mcintosh's place. The Otter is called by the Mexicans "Lobo del Agua" (Wolf of the water). Mr. Daniels has seen its tracks on the Sonora River, Mexico, where he also found the Beaver (*Castor fiber canadensis*). He found both on the Gila River, in Arizona.

Larus alleni. Yellow-legged Gull ♀ ad.
495; 1215; 390; 165; Culmen, 43; nostril, 21; gape, 60; height at nostril, 13.5; at mandible symphysis, 14.5; width at nostril, 8.5; tip of bill to centre of pupil, 63; to occiput, 94; base of bill to occiput 55; from head of tibia to end of longest claw 194; tibia, 89; bare portion, 30; tarsus, 57; mite, 47; el., 9; hte., 11; el., 5; length of nostril 9.5. Wings extend 60 m. m. beyond tail. Agua Fria valley, Arizona. April 23, 1886.

4781

4781

April 8th 1886. Ft. Verde, A.T.

4,713. Petrocephalus mexicanus ♂ ad. The eccentricity and abandon of this bird's flight I have often witnessed, and it is highly characteristic. They rise with a slow, butterfly fluttering motion to a considerable height, then fall and rise again many times in succession, oscillating in every direction, and finally dropping down upon the tallest tree top to rest. Often when descending they flutter slowly down twittering or singing as they descend.

15.3; 265; 85; 65; Cul., 15; nostril, 10; gape, 19; width of bill below nostril, 6.1; tars, 16.5; mte., 14.5; cl., 5. 3rd + 4th primaries longest + equal, then 2nd, 5th, 6th, 1st, 7th, etc. The 1st + 6th are nearly equal. The tail is slightly rounded.

No. 372. Tamias harrisi. ♂ ad. Total length, 259; Head + body to Tuber ischii, 173; Tail to end vert., 8.6; hairs, 108; width, 45; Ear, above crown, 6; notch, 11; meatus 11 width, 10.5; Tip nose to front tooth, 6; eye, 16; Centre pupil, 22; ear, 36; meatus, 36; tip of ear, 46; occiput, 45; hind leg, 248; Bet. eyes, 17; chest girth 105; Longest whiskers, 48; Fore leg from coracoid, 70; from olecranon, 48; manus, 24; Longest cl., 6.5; Hind leg from head femur, 94; knee, 74; Pes, 39; Longest hind claw, 6.

4,714. Dendroica nigrescens. ad. 131; 201; 65; 53; cul., 11; nostr., 7.5; gape, 14; tars., 18; mte., 14.3; claw, 4; hte., 10; claw of h., 4.5.

4,715. Dendroica auduboni ♂ ad. 143; 237; 76; 59; nostr., 8; gape, 13; tars., 20; mte., 17; claw, 5. still in winter plumage.

4,716. Dendroica auduboni ♀ ad. 143; 236; 77; 61; nostr., 7.5; gape, 14; tars., 18; mte., 16; claw, 5.

4,717. Dendroica auduboni ♀ ad. 141; 225; 73; 57; nostr., 7.5; gape, 14; tars., 18; mte., 16; claw, 5.

4,718. Sayornis nigricans ♀ ad. 177; 278; 97; 79; cul., 16; nostr., 10; gape, 20; width below nostril, 6. tarsus, 16; mte 15; cl., 5.

4719. Sayornis sayi ♂ ad. 203; 345; 111; 95; cul., 18; nostr., 11.8; gape, 23; width below nostril, 5.7; tars., 20; mte., 16; claw, 5.5. Stomach contained Crisal Thrasher.
4720. Accipiter fuscus ♀ ad. 343; 650; 207; 175; cul. + cere, 19; cere, 8; cul., 11.5; gape, 19; tars., 55; mte., 44; claw, 10.7.

Skulls collected in the Mogollon Mts.

Arizona by Mr. F. J. Todd + his partner:

No. 373. Felis concolor. "March 13th, 1886. This is a male lion, measuring 6 ft. 6 in. (tail 2 ft. 7 inches) F. J. J." Skull.

No. 374. Felis concolor. "March 12th, 1886. This is a female lion, measuring 5 feet long; tail was 2 ft. 1 1/2 inches. F. J. J." Skull.

No. 375. Felis concolor. "March 11th, 1886. This lion measured 7 feet from tip to tip; his tail was 3 feet long; male. F. J. J." Skull.

No. 376. Felis concolor. "This is a male lion's head; he measured 6 feet from tip to tip; his tail was 27 in. long. F. J. J. Skull. Date not given, but killed on the same hunt as above. Skull.

No. 377. Felis concolor. "March 14th, 1886. This is a male lion's head. Measured 6 ft. Tail 2 ft. 6 in. F. J. J." Skull.

No. 378. Canis latrans. ♂ ad. Mogollon Mts, Arizona. March, 1886. F. J. Todd. Skull.

No. 379. Antilocapra americana. ♂ ad. Skin of head, horns, skull + upper cervical vertebrae. Mogollon Mts., Arizona. April 3rd 1886. F. J. Todd.

No. 380. Antilocapra americana. ♀ juv. Skull + upper cervical vertebrae. Mogollon Mts., Arizona. April 3rd 1886. F. J. Todd.

No. 381. Antilocapra americana. ♀ ad. Skull + upper cervical vertebrae. Mogollon Mts. Arizona. April 7th, 1886. F. J. Todd. Contains two large foetuses.

No. 382. Antilocapra americana ♀ ad. Skull and upper cervical vertebrae. Mogollon Mts. Arizona. March 10th, 1886. Contained two foetuses.

No. 383. *Antilocapra americana*. Fad. Skull and upper cervical vertebrae. Mogollon Mts, Arizona March 11, 1886. F. J. Todd. Contained two fortures.

Description of the head and neck of the Antelope

Dimensions:

Adult male (No. 379). Tip of nose to eye, 205; to centre of pupil, 225; to ear, 265; to base of horn, 205; to tip of ear, 485; to occiput, 345. Ears, height above crown, 203; above notch, 170; width, 105. Distance between eyes, 135; distance between ^{bases of} horns, 60. Tip of nose to angle of mouth, 85. Horns, length in straight line, 220; their length following the curve, 300; greatest expanse of both horns, 280; distance between tips, 72 girth below prong, 160; length of prong 85; width of prong at base, 58; girth above prong, 120. Girth of head between horns and ears, 440; neck girth just behind occiput, 380.

Adult female (No. 381). Tip of nose to eye, 195; to centre of pupil, 210; to ear, 255; to base of horn, 205; to tip of ear, 470; to occiput, 320; to angle of mouth, 85. Ears, height above crown, 195; above notch, 170; width, 110. Distance between eyes, 110; distance between bases of horns, 60. Horns, length in a straight line, 85; greatest expanse of both horns, 135; distance between tips of horns, 126; girth at end of hairs at base, 60. Girth of head between horns and ears, 425; neck girth just behind occiput, 370.

Young female (No. 380) Horns just appearing, and nearly concealed by a tuft of blackish hair. Tip of nose to eye, 178; to centre of pupil, 193; to ear, 235; to base of horn, 200; to tip of ear, 450; to occiput, 285; to angle of mouth, 82. Ears, height above crown, 180; above notch, 165; width, 105; distance between eyes, 108; distance between bases of horns, 67. Horns, length in a straight line 12; distance between tips of horns, 80. Girth of head between horns and ears, 400; neck girth just behind occiput, 345.

Description:

Adult male. - With the lower jaw and space between the inferior maxillae, white. The upper lip are likewise white for an inch in width (up to the naked snuffle - which divides the upper lip by a narrow septum), except a dusky spot posteriorly. There is another dusky (yellowish-brown, mixed with plumbeous) spot at the angle of the mouth, extending backward about an inch. The white of the upper lip and lower jaw is confluent behind this angular spot, and extends backward upon the cheeks, decreasing to a terminal point below the middle of the eye. The inner surface of the ears, which are coated with long hair, and its base anteriorly and externally, are also white. There are two crescentish white patches upon the sides of the neck, posteriorly and inferiorly to the ears, which are separated by a narrow mesial stripe. Posterior to them is another semilunar area of white extending across the middle line below. The upper surface of the head, backward to between the horns, is dark brown, almost blackish anteriorly, grizzled posteriorly with pale yellowish. There is also a blackish-brown area at the anterior base of the horn, extending to the eye, and another below the ear, which latter is edged with the same except below. The residue of the head and neck are yellowish, or reddish-brown of different shades, varying from buckskin upon the dorsum of the ears to chestnut-rufous of the long mane which begins upon the occiput, and to which there is considerable admixture of dusky tips to the hair. The ears resemble those of the horse (*Equus*). They are very pointed, straight edged anteriorly, and rounded behind. The horns are glossy black with white incurved tips.

Adult female. - Coloration the same below except the white crescents upon the upper part of the neck are entirely united and form a white crescent. The coloring above is paler. The blackish-brown extends backwards little if any beyond the tips of the nasal bones; the coloring thence to the line of the eyes being yellowish. There is some admixture of black tips to the hairs between the orbits. There is no distinct black spot at the anterior base of the horn, but the lashes and a small spot above the front of the eye are black. The long hairs at the base of the horns are blackish, instead of nearly white as in the male. The short horns are uniformly black. Spots on upper lip and angle of mouth obsolete.

Young male (Yearling?) coloration still paler. The dark area still more restricted anteriorly. No trace of spots upon upper lip and angle of mouth. The white more extended. Horns nearly concealed by the hair, which forms a ~~white~~ spot at their bases around them.

In the above specimens, the hairs of the yellowish areas are somewhat paler at tips, light plumbeous at base, and wavy. The longest hairs of the mane, in the male, measure 120 mm; broadly white at base, succeeded by reddish-brown, and a narrow annulus of yellowish-white, pointed with black. In the white areas the hairs are white to the base.

- No. 384. Cariaeus macrotis Éad. Horns in the velvet.
- No. 385. Cariaeus macrotis Éad. Horns in the velvet. An old faded, abraded pair picked up on the Mogollon Mts Arizona, by F. J. Todd, in March, 1886.
- No. 386. Cariaeus macrotis Éad. Horns + skull except lower jaw. Mogollon Mts. Arizona. March 7, 1886. F. J. Todd.

Bird Notes: April 11, 1886.

Merganser americanus. - About a dozen adult males were seen on Beaver Creek yesterday (April 10). Several persons here have told me that it breeds here. Mr. Jordan has seen it leading its young on the Verde River, several years ago.

Mergus serrator. - Probably seen during the past winter but none were diagnosed from the above.

Lophodytes cucullatus. - Do not remember seeing any since March 11th, when a few were seen on Peck's Lake.

Anas boschas. - Still present. Mr. Lincoln Smith informed me that they sometimes nestle on Beaver Creek; and a lady told me that her husband brought some of their eggs home to her to set under a common hen, which he got somewhere in this region, when out on a shodero.

On Beaver Creek, they were observed to leave the running stream for any grassy water holes near the sandbars or along the acequias, spending much time upon the ground.

Branta canadensis. None seen since March 11 at Peck's Lake.

Ardea herodias. - During the past month its numbers have been greatly augmented by migrants, and half a dozen were sometimes seen at once. One was often observed standing on a submerged sand-bar in a certain place, where he was apparently very successful in the pursuit of his avocation. When catching a fish he became all excitement, stretched his neck away forward and dived upon it with slightly raised wings. This is the only heron I have yet seen this year.

Actitis macularia. - I did not see any during the winter months, though a few were present last season throughout the year. They were first seen April 2nd, but I was unable to tell whether they had assumed the spotted dress or not.

Aegialitis vocifera. - About the middle of March the migration began and is still in progress, and flocks of 20 were sometimes seen in the fields and plains & their cries often heard at night. They are silent when approached and remain so still that it is difficult to distinguish them. They will often permit one to ride past within a few feet without moving; but if one flies, the whole flock becomes vociferous and inclined to participate in its movement.

Zenaidura macroura. The migration began to be noticeable about the middle of March. They began coming regularly about April 1st. They are present in considerable numbers though the winter, when they mostly congregate in the warm valleys along streams.

Accipiter velox. - One that I shot on April 8th (No. 4720), flew from a cottonwood to the top of another tall one 100 yards distant, bearing in its claws a Robin, partly plucked and decapitated, without apparent inconvenience. They frequent especially the vicinity of streams, and are the terror of the Dove and Quail.

Accipiter atricapillus strigatus. - One was seen April 2nd. I have never seen more than half a dozen, and never obtained a shot in Arizona.

Urubitinga anthracina. - They returned to Fossil Creek, Arizona by March 15th. None have yet been seen along the Verde this season. At Dan. Robinson's store I saw them dusting with a wing of a fine specimen.

Falco peregrinus anatum. - A fine pair of blue birds was seen yesterday (April 10) at the old spring on Beaver Creek, but I suspect that it is too early for their eggs to be found. They were crying loudly, and flew from point to point upon the cliff. A flock of

Sheldrakes (Megascops americana) was swimming right below them in Beaver Creek.

Bubo virginianus subarcticus. - A pair are probably breeding in a hole in the rock wall of Mont-tezuma's Well. Young were found there last year.

Ceryle alcyon. - Last seen April 7th, on Beaver Creek.

Dryobates scalaris. - Now breeding. Two nests are found, but not yet opened as the females have not begun to sit. Both in low cottonwood slumps.

Colaptes cafer. - Several were seen apparently hunting for a nesting place among some dead cottonwoods on April 6th. They were fairly common up to that time. None have been seen since. Very few breed in the valley.

Micropus melanoleucus. - None have been seen for some few days past.

Tyrannus verticalis. - Not yet common, although a number have been seen lately.

Sayornis saya. - A nest was taken from the Post Hospital, containing 5 eggs April 8th. Another was blown from a projecting cornice on one of the officers' houses beneath the piazza roof on April 6th, upon which the parents had sat about a week. This is the earliest breeding record.

Otocorys alpestris (aremeola?). - These birds still are seen in flocks of from one to two, two dozen but many pairs are seen separately, the males singing a sweet song from some low shrub. They are doubtless beginning to breed but I have searched ^{many} miles of grassy plain vainly trying to discover their nests.

Picisorex columbianus. - Have been informed that this species is a permanent resident of the Mogollon Mts, Arizona, where I found a few and killed a specimen in October, 1884.

- Molothrus ater obscurus. - First seen April 8th.
Agelaius phoeniceus. - a few still present.
Sturnella magna neglecta. - During the winter Meadow Lark are among the commonest birds in the Verde Valley; but during March their numbers are simply astonishing, being then augmented by migrants. The migration is now at a rapid decrease, and very soon only a few will be seen in the valley, most of those wintering here having retired to the higher mesas to breed. A few breed regularly in the Verde Valley, however.
Icterus cucullatus nelsoni. - One fine male was the first seen on Beaver Creek, April 10, 1886.
Scolecophagus cyanocephalus. - Our full complement is still present.
Xanthocephalus xanthocephalus. - The two Yellow-heads that first ^{came} have increased their number to about 20 now.
Spinus tristis. - Two were seen in a sycamore on Beaver Creek, April 10th.
Pooecetes gramineus confinis. - Still a very abundant migrant. It is a scarce winter resident, but during the spring migration it is exceedingly plentiful. I have not found it breeding.
Ammodramus sandwicensis alaudinus. - Not rare during the past month, and frequenting dry plains as well as wet places.
Chondestes grammacus strigatus. - In winter a few are found, usually in small flocks about the ranches. The spring movement has commenced but not yet reached its height.
Zonotrichia intermedia. - Now very abundant and singing.
Zonotrichia leucophrys. - has not been seen during the past year. I suspect that it rarely descends to the valley.

- Spizella socialis arizonae. - First seen April 9th.
Spizella breweri. - Arrived April 3rd. Not yet abundant. Probably a few winter.
Junco hyemalis oregonus. - A few flocks were last noted April 6th.
Amphispiza bilineata. - Singing its sweet twiling song in every bush. Its notes bear a passing resemblance to Melospiza fasciata fallax's.
Pipilo aberti. - Now excited and commencing to build its nest. Spends much time in the cottonwoods courting, instead of skulking in brushwood as usual.
Calamospiza melanocorys. - Still present in some numbers; all in winter plumage still.
Tachycineta thalassina. - Still rather common. They prefer the vicinage of water.
Stelgidopteryx serripennis. - Seen entering burrows in the river-bank April 10th.
Lanius ludovicianus excubitorides. - The fifth egg was deposited in a nest April 11th (today), one having been laid each day. Another nest is just finished. A third was found a week ago which was then just finished, and one nest with complement of 6 eggs has been taken.
Vireo belli pusillus. - Heard singing April 8th, when the species was first seen this season.
Helminthophaga luciae. - Their migration now at its height I should think.
Dendroica aestiva. - The cottonwoods many now be said to be fairly in leaf although the foliage is not full developed. The fruitage is just preparing to open into feathery festoons; and this little Warbler makes the longed-for foliage fairly resound with their sweet happy songs.
Dendroica auduboni. - In flocks of a dozen or more enveloping the cottonwoods. They are restless and incessantly restless. The males

are not yet in perfect feather, although in spring attire, with a few exceptions - probably young birds?
Geothlypis macgillivrayi. - One was first seen in a patch of sage bush and rhubarb (Doek) beside the Verde, April 4th.

Geothlypis trichas occidentalis. - Not yet common.

Turdus pensylvanicus. - Two were seen April 11th.

Hearshornchus crissalis. - Many nests have lately been found, all containing young and now more than 3. Most nests are built in haw bushes while a few are in mesquites. I saw one pair in a white limestone tract, covered with green, spiny ~~leaf~~ shrubs (the) sometimes erroneously called Palo verde, in which they doubtless had built a nest although I failed to find it. Of late my experience has been to find a nest near where these birds are heard singing.

Auriparus flaviceps. - About one old nest may be found in every extensive mesquite grove.

They are rather more common here now than I have yet found them here.

Regulus calendula. - Still quite abundant; singing.

Myiadestes townsendii. - A fine bird was seen in the cottonwoods to-day (April 11) beside the Verde.

Merula migratoria propinqua. - Still abundant.

Sialia arctica. - Last seen April 6th on Beaver Creek.

April 13th 1886. Ft. Verde, A.T.
Larus allenii ♀ ad. Irides ^{hale} yellow.

4721.

Larus allenii. Bill yellow, strongly banded with black anterior to the angle and nostril. Bare tibiae, tarsi, and feet, chrome yellow. Gape of mouth deep red. Claws dull black, shading to horn-color at tip. Mantel and dorsum of wings, pearl gray, the ^{and outer, edge of middle portion of the external greater wing coverts} six outer primaries barred with black. ^{Residue of} plumage, white. The outer primary white at base, the exposed portion black, except a subterminal white bar

25 mm. in length and of equal extent upon ^{which are divided by the black shaft.} The first primary ^{is black at the apex} the outer and inner webs. The second primary barely tipped with white. The second to the sixth pale-pearl gray at base, with the ^{black} terminal portion decreasing in amount from without inward, all of them tipped with white, beginning with a minute spot at the end of the second and increasing to 12 mm. in extent upon the sixth. The remaining primaries ~~are~~ like the secondaries and tertials, ^{and scapulars,} fading to white terminally, the line of demarcation being indistinct.

The following specimen differs in markings from this one only in having the subterminal white bar restricted to the inner web, except a narrow ^{white} tracing adjacent to the black shaft only on the right wing. The exposed portion of the second primary is ~~also~~ black throughout. The white tips beginning with the third. 490; 1210; 372; 147; The tips of the claws of the ~~interstitiated~~ extended feet reach to or a little beyond the end of the tail. The wings when folded extend 55 mm. beyond. Culmen 40; bill from nostril, 18; gape, 59; height above nostril, 12; ~~above~~ at ^{orbitalia} symphysis, 13; width below nostril, 7. tip of bill to centre of pupil 66; to occiput 96; base of culmen to occiput 55. Diameter of outer rim of iris, 8. Horn head of tibia to end of middle claw, 197; tibia 94; bare portion, 30; tarsus, 59; unite, 50; cl, 8; htc, 9.5; cl, 3.8. The tip of the outer-claw ~~extends~~ reaches to the middle of the middle claw, while the inner claw falls short of the ~~inner~~ middle by its own length. The bill is somewhat expanded near the tip. The dorsal outline is regularly convex from over the nostril to the tip. The outline of the gonyx is concave from the base to the angle, thence straight to the tip, or very slightly concave. The line of commissure is first concave below, then convex.

4722 Larus ♂ ad.
 522; 1280; 395; 160; cul., 46; nostrl, 21.5;
 gape, 64; height ~~at~~ nostrils, 15; alar extent symphysis
 16; width at nostrils, 9.5; tip bill to centre of
 pupil, 75; to occiput, 106; from base culm to occiput
 59. from head tibia to end longest claw, 200; tibia
 95; bare portion, 30; tarsus 11; mte., 48; cl., 9
 hte 10; cl. 4.1. Length of nostril, 9.7. Tip of pinnaries
 70 mm beyond end of tail,

April 15th, 1886 Ft. Verde, A. S.

No. 387. Neotomys torridus ♀ ad. Caught at the
 Post Spring on Beaver Creek by the water-wagon driver
 Total length 163; head & body 110; tail to end of hairs, 52;
 to end of ~~hair~~ vertebrae, 50. Ears, height above crown,
 15.5; above notch 19; width, 14. From tip of nose to
 eye, 15; to centre of pupil, 17; ear, 25; meatus, 25.5;
 tip of ear 45; occiput 32; end hind leg, 158.
 Distance between eyes, 11; Chest girth, 70. Fore
 limb from coracoid 38; from olecranon 28; manus, 13
 Hind limb from gt. trochanter, 60; knee, 42; pes, 21.7
 Soles hairy, except pads and toes. A photograph taken.
Tamias ludovicianus excubitorides. - Took two
 nests. One contained 6, the other 3 eggs.

Buteo swainsoni. - Shot an adult female beside
 a nest that it was building in a very large
 cottonwood-tree. I did not see the nest until after
 the parent was shot; but the nest could not well
 have been reached.

April 16th, 1886. Ft. Verde, Arizona.

4723. Sturnella magna neglecta ♀ ad. 239; 390; 118;
 77; cul., 30; gape, 32; tars., 37.5; mte., 33; claw, 9.
 4724 Agelaius phoeniceus ♀ ad. 205; 340; 108; 83; cul., 19;
 gape, 18; tars., 26; mte., 26; claw, 8.
 4725. Empidonax obscurus ♂ ad. 156; 237; 75; 69;
 cul., 14; nostr., 9.5; gape, 17; tars., 18; mte., 14; claw, 5.
 4726 Cypselus saxatilis ♀ ad. 158; 333; 140; 64; cul., 5.3; nostr., 3;
 gape, 16; tars., 8; mte., 11; claw, 6; hte., 8; claw, 4.

- 4727 Dendroica aestiva ♂ ad. 129; 199; 66; 47;
 cul., 10; nostr., 7; gape, 13; tars., 19; mte., 15; cl., 3.5.
 4728. Dendroica aestiva ♂ ad. 133; 202; 67; 55;
 cul., 11; nostr., 8; gape, 13.5; tars., 19; mte., 14; claw, 4.
 4729. Dendroica aestiva ♀ ad. 126; 189; 61; 50; cul., 9.2;
 nostr., 7; gape, 12; tars., 18; mte., 14; claw, 4.
 4730 Dendroica auduboni ♂ ad. 151; 247; 83; 64; nostr., 7;
 gape, 13; tars., 20; mte., 17; claw, 5.
 4731. Helminthophaga luciae ♂ ad. 117; 180; 59; 47;
 cul., 9.7; nostr., 6.5; gape, 10.5; tars., 16; mte., 13; claw, 3.5.
 4732. Regulus calendula ♀ ad. 111; 170; 60; 46; nostr., 6;
 gape, 12; tars., 18; mte., 13; claw, 4.
Icteria virens longicauda. - Two; the first seen.
Myiarchus cinerascens. - One; the first seen.
Empidonax. - Several; the first seen.
Myiadestes townsendi. - One on a cottonwood
 beside the sluice.
Astragalinus tristis. - One seen, an adult male
 acquiring the summer plumage.
Geothlypis trichas. - One seen on the sluice; the first seen at Verde.
Tyrchardus grisea naevia. - One seen.
Trochilus alexandri. - One seen for 2nd time.

April 17th, 1886.

- No. 388. Tamias harrisi ♂ ad. Total length, 259; Head and body,
 170. Tail to end of hairs, 104; vertebrae, 83; Ears,
 height above crown, 5.5; notch, 12; meatus, 12;
 width, 12; Between eyes, 23; Chest girth, 100; Tip
 of nose to front teeth, 5.2; eye, 18; centre of pupil, 23;
 ear, 34; meatus, 35; tip of ear, 45; end of hind leg
 248; longest whiskers, 38. Fore limb from head of humerus
 68; olecranon, 50; manus, 25; longest fore cl., 6.5;
 Hind limb from head femur, 93; knee, 71; pes,
 40; longest hind claw, 5.5; Tail, width, 43.
 N. 389. Spermophilus grammurus grammurus ♀ ad.
 Total length 480; Head and body, 247. Tail to end of
 vertebrae, 193; to end hairs, 240. width, 100. Ears, height
 above crown, 17; above notch, 25; width, 19.

Between eyes, 33 Chest girth, 155. From tip of nose to front teeth, 8; eye, 27; centre pupil, 34; ear, 54; meatus, 54; tip of ear, 75; occiput, 66 end hind leg, 355. Longest whiskers, 54

Fore limb from coracoid, 99; from olecranon 76. Manus, 35; longest cl., 9. Hind limb from head of femur, 131; knee, 95; pes, 56 l.c.l. 7

It was shot in a mesquite-bush in the Post, where it was eating last years mesquite seeds. But on dissecting it, its enormous pond was found distended with a mass of green material, and its cheek sacs filled with the good sized ovaries of some plant containing a quantity of green seeds.

4733 Tamias polyglottus. ♀ ad. 256; 347; 111; 123; culmen, 18; nostril, 12; gape, 25; tarsus, 33; mte., 28; claw, 6. Irides, greenish-yellow. Bill tarsi feet & claws black.

4734 Tamias polyglottus ♀ ad. 271; 365; 118; 138; culmen, 19; nostril, 12.7; gape, 26; tarsus, 33; mte., 29; cl., 8. Colors of soft parts as above.

April 18th 1886 Ft. Verde, Ariz.

Lieut. Mason's family and mine drove to Copper Canon and spent the day picnicing.

4735 Xanthocephalus xanthocephalus ♂ ad. Corral. 264; 452; 148; 104; cul., 24; gape, 24; tarsus, 37; mte., 38; cl., 13.

4736 Regulus calindula ♀ ad. 111; 169; 58; 45; cul., 10; nostril, 6; gape, 12; tars., 18.5; mte., 14; claw, 4.5.

No. 390 Spermophilus grammurus grammurus ♂ ad. Total length, 475; head & body, 277; tail to end of vertebrae, 165; to end of hairs, 226; width, 105; ears, height above crown, 18; above notch, 26; width, 23; between eyes, 35; chest girth, 175; from tip of nose to front teeth, 9; to eye, 27; center of pupil, 33; ear, 55; meatus, 56; tip of ear, 77; occiput, 70; end hind leg, 380; longest

whiskers, 55; forelimb from coracoid, 106; from olecranon, 77; manus, 37; longest cl., 7.5; hind limb from head of femur, 140; from knee, 100; pes, 55; longest cl., 8;

4737 Icterus nelsoni ♂ ad. 217; 284; 98; 102; cul., 20.3; nostr., 15; gape, 23; tars., 22.5; mte., 22.5; claw, 6.5

4738. Tyrannus vociferans. ♂ ad. 232; 410; 135; 101; cul., 21; nostr., 16; gape, 28; tars., 18; mte., 21; cl., 7.

4739. Myiadestes townsendi ♂ ad. 219; 347; 117; 107; cul., 12.5; nostr., 8; gape, 19; tars., 20; mte., 21; cl., 6.

4740. Xanthocephalus xanthocephalus ♂ ad. 279; 460; 150; 115; cul., 23; gape, 23; tars., 37; mte., 37; claw, 11

April 19th 1886,

Fort Verde

4741. Xanthocephalus xanthocephalus ♂ ad. 273; 450; 150; 115; cul., 23; gape, 25; tars., 35; mte., 35; cl., 12.

4742 Xanthocephalus xanthocephalus ♂ ad. 266; 446; 147; 111; cul., 21.5; gape 22.5; tarsus, 34; mte., 37; cl., 11.

4743 Scolecophagus cyanocephalus ♀ ad.

Xanthocephalus icterocephalus. - There are two of these birds with orange-red instead of yellow heads. There are about an hundred of them there now.

Specimen Collected By Stuart Daniels

No. 391. Thomomys talpoides umbrinus ♀ ad. Fossil Creek, Arizona. April 6th, 1886. Preserved in pickle. Skull separate. Contained 4 fortuses.

No. 392 Thomomys talpoides umbrinus ♀ ad. This specimen was suckling young, two of which were captured. Locality, etc. same as above.

No. 393 Thomomys talpoides umbrinus. ♀ juv. Immature. Skin preserved in pickle. Skull destroyed. Fossil Creek, Arizona. April 11th, 1886. Stuart Daniels.

No. 394. Sciurus "arizonensis" (= collettii?) ♀ ad.
 Fossil Creek, Arizona, April 5th, 1886. Skin
 preserved in pickle. Total length 26 in. Head and
 body 11. Tip of nose to eye 1 1/4; ear, 2; meatus, 2 1/4
 tip of ear, 3. Tail ^{to occiput 2 1/8} to end vertebrae, 11 3/4; to end
 of hairs, ~~15 1/8~~ 15 1/8. Manus 2. Pes, 2 5/8. Fore leg
 4 7/8; Hind leg 5 1/4. Height of ear from crown
 1/2; meatus 1 1/4. Between eyes 1 1/2. Chest girth 8

No. 395. Sciurus "arizonensis" (= collettii?) ♀ ad.
 Fossil Creek, Arizona, April 12th, 1886. Mr.
 Daniels measured it & found its dimensions
 to me almost exactly the same as the above
 so failed to note them. Skin in pickle & skull.

No. 396. Mephitis interrupta ♂ ad. Hunters Skin
 and skull. Fossil Creek Arizona April 8, 1886

No. 397. Spermophilus grammurus grammurus. ♂ ad.
 Hunter's skin, and skull. Fossil Creek, Arizona.
 April 7th, 1886. Stuart Daniels.

No. 398. Spermophilus grammurus grammurus ♀ ad.
 Same as above except date: April 9th, 1886.

No. 399. Spermophilus grammurus grammurus ♀ ad.
 Same as above.

No. 400. Spermophilus grammurus grammurus ♀ ad.
 Same as above except date: April 12, 1886.

No. 401. Hesperomys leucopus eremicus ^{anthonyi} ♀ ad. Pregnant
 with 3 foetuses. Fossil Creek, Arizona
 April 10th, 1886. Skin & skull in pickle.

April 20th and 21st 1886. Peck's Lake, Ariz.

Lieut. Jno. S. Mason Jr. and myself, with a
 soldier, left the Post (Verde) at 8 o'clock a. m.
 The soldier was sent on ahead to Jerome to
 invite Major E. K. Otey to join us in a hunt
 for water birds at Peck's Lake.

When we had covered half of the road
 to the Lake, we discovered that our roll of bedding
 and a valise had fallen from the buckboard

and we were obliged to return to the Post, being
 unable to find the bedding roll, although the
 valise containing ammunition was found. We
 hitched a span of fresh mules to the buckboard and
 got some more blankets and set out again at
 12 o'clock M., and commenced shooting at 5 o'clock
 on the Lake. Mason killed 6, Major Otey 5 and
 I 6 ducks before dark, besides some waders.

On the 21st we hunted until 5 o'clock P. M.
 & returned to the Post at 9.30 P. M., having bagged:
 65 ducks, 12 Jack Snipe, 1 Solitary Tattler, 14 Virg.
 Rails, 2 Sora Rails, 3 Bitterns, 1 Glossy Ibis, 2
 Mud Hens (Fulica), 7 Gambel's Quail, 1 Little White Egret,
 1 Curlew, 3 Red winged Blackbirds, 1 Rock Squirrel, 1
 Cottontail Rabbit, 1 Muskrat.

4744 Rallus virginianus ♂ ad Length to end toes 342;
 269; 380; 110; 5.6; cul., 45; gape, 45; tip bill
 to centre pupil, 54; to occiput 73; base bill to occiput
 29; head tibia to end cl., 137; tibia, 60; bare portion,
 12; tarsus, 37; mte, 44; cl 8; hte, 15; cl, 5
 Iris, red. bill with maxilla laterally at base
 and whole of mandible except the distal portion
 orange-red & residue dark brown. Legs, feet
 and claws ^{orange} brown

4745. Rallus virginianus ♀ ad. Length to end of toes 308
 235; 353; 107; 46; cul., 36; gape, 37; leg from
 head of tibia to end claws, 125; tibia 5.3; bare
 portion, 13; tarsus, 34; mte 41; cl, 6.5; hte 13;
 cl., 5. colors of soft parts the same as above.

4746. Rallus virginianus ♀ ad. ^{Length to end of tarsus} 313.7 243; 355
 106; 51; cul., 38; gape, 39; leg from head of tibia
 to end claws, 128; tibia, 57; bare portion, 14;
 tars., 34; mte, 42; claw, 7; hte 13; claw 4.

4747 Rallus virginianus ♀ ad. Length to end of
 claws, 315 - ~~244~~ 244; 345; 109; 53; cul., 37;
 gape, 38; leg from head of tibia 127; tibia, 12
 tarsus, 34; mte, 40; cl, 6; hte, 13; cl, 4.

All of the above specimens were much emaciated, showing that, although they perform extended migratory journeys, the strain of long flights is severe. Their gizzards were well filled with thin flakes of what appeared to be aquatic insect cases, having a strong odor. The legs in the different species differ somewhat in the amount of orange tinge to the brown legs and feet.

4748. Porzana carolina ♂ ad. Length to end of claws, 298; 218; 348; 110; 48; cul., 22; gape, ~~23~~ 23; leg from head tibia to end of claws, 130; tibia, 57; bare portion, 15; tarsus, 35; mtc, 44; cl. 8; htc, 16; cl., 5.5. Irides reddish hazel. Bill bright yellow at base, shading to olive-green towards the extremity. Legs and feet light green. Claws, dusky olive laterally, lined with horn color above.

4749. Porzana carolina ♂ ad Length to end claw. 323. 245; 370; 215; 57; cul., 23; gape 24; from head tibia to end claws, 137; tibia 57; bare portion 15; tarsus, 35; mtc, 45; cl., 8.6. Colors of soft parts like No. 4748. In fair condition as to fat.

4750 Botaurus solitarius ♂ ad. ^{to and from} 265; 223; 430; 138; 62; cul., 30; gape, 33; from head of tibia to end claws 110; tibia 49; bare portion, 20.5; tarsus 33; mtc, 29; cl. 5; htc, 9.5; cl., 3. tip of bill to centre of pupil, 43; to occiput, 56; from base of culmen to occiput, 28.5. Irides hazel. Bill and claws blackish. Legs and feet olivaceous-green.

4751 Gallinago delicata ♂ ad. Length to end of claws 330 280; 450; 138; 69; cul., 63; gape, 62; leg, from head of tibia to end of claws 125; tibia, 56; bare portion, 14; tarsus, 32; mtc., 39; cl., 7.5; htc, 11.5; cl. 3. Irides, hazel. Bill blackish, lined with brownish yellow on upper surface of maxilla at base and on inner of mandible.

4752 Ardea candidissima ♂ ad. Length to end of claws, 865; 640; 1020; 285; 104; cul., 90; gape, 108; height of bill at base, 13.75; width, 13 tip of bill to centre of pupil, 110; to occiput, 143 from base of bill to occiput, 49. from head of tibia to end of claws, 338. Tibia 155; bare portion 73; tarsus, 106; mtc, 74; cl., 13; htc 45; cl., 17. Bare space on sides of face + around eyes and at base of bill yellow; the feet are also olivaceous yellow; one foot (Right) has an apparently accidental black patch at the base of the inner toe. Bill, bare tibiae and tarsi black; claws, plumbeous-black. Irides yellow.

4753 Fulica americana ♀ ad. Length to end of claws, 570; 370; 660; ¹⁹² ~~578~~; 58; cul. 41 gape, 33; from head tibia to end of claws, 223 tibia, 92; bare portion, 22; tarsus, 54 mtc, 78; cl., 12; htc, 27; cl., 7. Bill, white, with a frontal plate and spot on each side, ^{mandible} and dorsum of maxilla Indian-red. Irides, carmine. Bare tibia yellowish green; foot, dusky; tarsus greenish in front plumbeous gray posteriorly. Leg light plumbeous-gray; claws dusky.

4754 Nyroca longirostris ♂ ad. Length to end of claws, 680; 575; 1015; 290; 115; Culmen (chord) following curve, 149; gape, 148; from tip of bill to ^{center} of pupil 166; to occiput, 190; from base of bill to occiput, 48. Head of tibia to end of claws, 245; tibia, 110; bare portion, 51; tarsus, 91; mtc, 47; cl., 9; htc, 19; cl., 6. See ^{10/14/75} ^{disc. of soft parts} Ordn's Crimson. "Face" and intertarsal space below deep wine-purple as are the legs and feet. Bill greenish-gray, shading to purple at tip. Claws, dusky, plumbeous.

4755. Botaurus lentiginosus. ♀ ad Length to end of claws, 207; 660; 1015; 277; 93; Culmen, 70 gape, 94; from head of tibia to end of cl. 320

200 Stomach contained a fish, frog, and large aquatic insects
tibia, 135; bare portion, 35; tarsus, 89;
ante, 102; el., 19; htc, 67; el., 28. From
tip of bill to centre of pupil, 96; to occiput 128
from base of bill to occiput, 59.

4,756 Botaurus lentiginosus ♀ ad. Length to end
of claws, 860; 635; 1010; 174; 105; Culmen, 74
; gape, 98; head of tibia to end of claws, 311
Tibia, 130; bare portion, 31; tarsus 88
ante, 99; el., 14 1/2; htc, 64; el., 28

4,757 Botaurus lentiginosus ♀ ad. Length to end
of claws, 800; 590; 920; 263; 82; culmen, 69
Gape, 91; head of tibia to end of claws, 292
Tibia, 119; bare portion, 34; tarsus, 82
ante, 92; el., 17; htc, 61; el., 14. In all
of the above specimens the irides are straw
yellow. Bare part of eye light greenish yellow.
Bill brownish-black above, pale greenish
yellowish or horn-color upon the sides
of maxilla, and whole of mandible.
Legs and feet pale yellowish-green; claws
pallid plumbeous-brown.

4,758 Plegadis falcinellus. ♂ ad. Length to end of
claws, 800; 598; 978; 280; 110; Culmen (chord)
134; following curve, 138; gape, 133; from head
of tibia to end of claws, 332; tibia, 141; bare
portion, 66; tarsus, 102; ante, 86; el., 18
htc, 40; el., 14 1/2. Tip of bill to centre of pupil,
147; occiput 174; base of bill to occiput 143
iridella are large as small grapes.
Maderant described the soft parts

under No. 4,754, and give those of that specimen
here. Irides hazel. Bill black, wine-purple at
base & intermaxillary membrane. Legs & feet gray
Claws dusky. From tip of bill to centre of pupil 147
Occiput-174 from base of bill to occiput: 143

4,759 Querquedula cyanoptera ♂ ad.
432; 660; 195; 83; cul from frontal feathers 48
from extreme base, 57; gape, 59; height at base 20

201 Culmen from nostril, 36; head of tibia to end of claws, 148
greatest width
width 7, 18. Tip of bill to centre of pupil, 72; to occiput,
98; from base of bill to occiput, 49. Tibia 68
bare portion 11; tarsus, 34; ante, 47; el., 8.5;
htc, 16; el., 5. Irides, orange. Bill plumbeous
black. Legs & feet orange yellow; webs & claws dusky.

4,760. Aegialius phoeniceus ♂ ad. 242; 402; 132; 101;
cul., 24; gape, 23.6; tarsus, 29; ante. 30; el. 8.5.

4,761. Gallinago delicata ♀ ad. Length to end of claws, 348;
296; 447; 137; 62; cul. 74; gape, 73; from head of
tibia to end of claws, 125; tibia, 59; bare portion, 12
tarsus, 32; ante, 36; el., 6; htc, 10.3; el., 4.4.

4,762 Gallinago delicata ♂ ad. Length to end of claws, 325
correct these numbers 272; 440; 135; 61; cul., 62; gape, 61; from
head of tibia to end of claws, 122; tibia 55; bare portion,
24.2; tarsus, 32; ante, 37; el., 6.4; htc, 12; el., 3

4,763 Gallinago delicata ♀ ad. Length to end of claws, 334.
277; 453; 142; 60; cul., 66.5; gape, 65.5; from
head of tibia to end of claws, 124; tibia, 54; bare portion, 13;
tarsus, 34; ante, 37; el., 7; htc, 12; el., 4.

4,764. Gallinago delicata ♀ ad. Length to end of claws, 340
287; 436; 134; 59; cul., 67; gape, 60; from head
of tibia to end of claws, 126; tibia 59; bare portion 14
tarsus 33; ante, 37; el., 6.5; htc, 12.4; el., 3.6.

4,765 Gallinago delicata ♀ ad. Length to end of claws, 343;
282; 437; 133; 63; cul., 65; gape, 64; from head
of tibia to end of claws, 128; tibia 56; bare portion, 15;
tarsus, 35; ante 38; el., 6; htc, 11.5; el., 3.

4,766. Gallinago delicata ♂ ad. Length to end of claws, 350.
291; 445; 136; 64; cul., 70; gape, 69; from head
of tibia to end of claws, 126; tibia, 58; bare portion, 15;
tarsus, 33; ante, 37; el., 7; htc, 12; el., 4.

4,767. Hythya walliseria ♂ ad. 552; 900; 245; 72;
cul. from frontal feathers, 66; from extreme base
75; gape, 68; height at base, 31; width 23; tip of
bill to centre of pupil 92; to occiput, 134; frontal feather
to occiput 61; tibia, 100; bare portion, 14;
tars, 47; ante 83; el., 10; htc 27; el. 4.6. Irides
orange. Bill black, slightly mottled on mandible with reddish. Legs & feet greenish
gray; webs & joints dusky.

4768 *Ereimatura rubida* ♂ ad. In molt. The white cheeks are mixed with black and the upper + part back with bright rufous feathers; and there are several new rectrices which are ~~dark~~ black. Bill, dusky reddish brown. Lower mandible and intermandibular membrane, purplish brown. Irides hazel. Legs & feet dusky plumbeous externally, paler and ^{more} grayish internally. 400; 590; 155; 93; Cul. from frontal feathers 40; from extreme base, 47; width at base 20; at widest portion 25; tip of bill to centre of pupil, 62; to occiput, 85; base of bill fr. feathers to occiput, 45; tibia, 75; bare portion, 9; tarsus, 35; mte, 64; cl. 9; hte 19; cl. 4.

4769 *Charitonetta albeola* ♀ ad. Irides, brown. Bill plumbeous-black, with nail of mandible reddish. Legs & feet purplish-gray, webs & joints ^{claws} dusky. 337; 560; 161; 86; Cul. from frontal feathers 25; from extreme base, 31; gape, 36; height at base, 15; width, 16; tibia, 60; bare portion, 6; tarsus 30; mte, 53; cl., 6; hte, 16; cl., 3.5; Tip of bill to centre of pupil, 45; to occiput, 67; from frontal feathers to occiput, 44

4770 *Anas cyanoptera* ♂ ad. 420; 655; 200; 83; Culmen from frontal feathers, 43; from extreme base 52; gape, 37; height at base, 19; width, 18; ³⁶ bare tibia, 10; tarsus, 34; mte, 47; cl. 9; hte, 13; cl. 4.5

4771 *Anas cyanoptera* ♂ ad. 440; 665; 200; 87; Cul. fr. front'l feathers, 46; extreme base, 54; gape, 53; height at base, 18.5; width, 17; bare tib., 12; tars., 35; mte., 47; cl., 9; hte., 13; cl., 4; nost., 35

4772 *Anas cyanoptera* ♂ ad. 435; 680; 201; 86; Cul. fr. frontal feathers, 45; extreme base, 54; gape, 53; height of bill at ^{extreme} base, 19; width, 17; bare tibia, 12; tars., 34; mte., 46; cl., 8; hte., 13; cl., 4; nost., 36.

4773 *Anas cyanoptera* ♂ ad. 423; 665; 200; 87; Cul. from frontal feathers, 46; from extreme base, 54; Gape, 55; height of bill at ^{extreme} base, 18.5; width, 19; bare tibia, 12; tarsus, 38; mte., 45; cl., 8; hte., 13; cl., 4.4; nost., 36.

4774 *Anas cyanoptera* ♂ ad. 430; 630; 182; 86; Cul. from frontal feathers 46; from extreme base, 53; gape, 54; height at base, 18.5; width, 17; ^{nost. 36} bare tibia, 12; tarsus, 33; mte., 46; cl., 9; hte., 13; cl., 4.2.

4775 *Anas cyanoptera* ♂ ad. 430; 666; 201; 89; Culmen from frontal feathers, 49; from extreme base, 57; gape, 55; height at base, 18.5; width, 18; bare tibia, 13; tarsus, 34; mte., 47; cl. 8.5; hte., 13; cl., 4; nost. 37

4776 *Anas cyanoptera* ♀ ad. 384; 617; 181; 75; Culmen from frontal feathers, 40; from extreme base, 48; gape, 47; height at base, 16; width, 18; bare tibia 12; tarsus, 31; mte., 40; cl., 7.5; hte., 13; cl., 4.

4777 *Anas cyanoptera* ♀ ad. 405; 630; 175; 82; Culmen from frontal feathers, 42.5; from extreme base, 49; gape, 50; height at base, 17; width, 16.5; bare tibia 11; tarsus, 33; mte., 44; cl., 7; hte., 13; cl., 4.

4778 *Anas (cyanoptera?)* ♀ ad. 395; 625; 179; 82; Culmen from frontal feathers, 40; from extreme base, 48; gape, ⁴⁹ height at base, 17; width, 17; bare tib., 12; tarsus, 33; mte., 43; cl., 8; hte., 13; cl., 4.

This specimen has a broad white edging to the great wing coverts, producing a white bar on the wing. Possibly it is *Anas discors*, as the breast also differs greatly from *A. cyanoptera*.

4779 *Anas carolinensis* ♂ ad. 390; 625; 198; 82; Cul. from frontal feathers, 49; from extreme base, 47; gape, 46; height of bill at base, 17; width, 14; tibia, 64; bare portion, 11; ³¹ tars.; mte, 40; cl., 7; hte., 11.5; cl., 4. In very much bleached, worn plumage.

April 24th, 1886. Ft. Verde, Arizona

4780 *Rautoccephalus xanthocephalus* ♂ ad. 270; 447; 147; 112; Culmen, 24; gape, 24; tarsus, 33; mte 36; cl., 12. This specimen looks the few white or yellow feathers usually found upon the inner aspect of the lower part of the tibia.

April 26th 1886. Ft. Verde, Arizona

Myiarchus cinerascens. - Now common
Tringa minutilla. - A flock of about 30, one of which I shot. I was driving the buckboard to the Peregrine Falcon's nest on Beaver Creek, when the mules got fairly into the flock upon a sandy island before we saw them. I fired at them upon the bank. The flock returned and alighted in the same spot after circling around. *Xanthocephalus xanthocephalus*. - Found first seen. *Falco peregrinus anatum*. - The pair was found near the old place, but this year saw made their nest in the isolated pile of lime rock at the mouth of the Beaver Creek cañon.

Junco oregonus. - A number seen on Beaver Creek.
Merganser americanus. - A flock of ten; only one old male, that I wounded, flying down two hundred feet from the cliff above. The bird was one hundred yards distant horizontal plane.

Corvus corax americanus. - A nest was found above the lowest cliff dwelling on the Right side going up the Cañon. We could not reach it. The old nest found last year was deserted.

4782. *Tringa minutilla* ♀ ad. Length to end of claws, 183; 134; 295; 92; 43; cul., 21; gape, 21; from head of tibia to end of middle claw, 72; tibia, 33; bare portion, 10; tars, 19; mte 20; cl, 4.6.

April 27th 1886 Ft. Verde, Arizona

No. 402. *Spermophilus grammurus grammurus*. ♂ ad. Total length, 525; head and body, 290; tail to end of vertebrae, 215; to end of hairs, 263; width, 100; Ear, height above crown, 17; above notch, 26; width, 19; Between eyes, 33; Chest girth, 160; tip of nose to front beta, 9; to eye, 31; to center pupil, 36; ear, 56; meatus, 56; tip of ear, 74; occiput, 69; end of hind leg, 412; manus, 41; from hind from coracoid, 175; from olecranon, 84; Pes, 61

longest foreclaw, 9; longest hind claw, 8; hind limb from head of femur, 165; from knee-joint, 110; longest whisker, 65.

4783. *Tachycineta thalassina*. ♂ ad. ~~135~~ 135; 313; 120; 52; cul., 7; nost., 5; gape, 12; tars, 11; mte., 14; claw, 4.

4784. *Anas boschas* ♀ ad. 570; 920; 270; 103; cul. from frontal feathers, 58; from extreme base, 61; gape, 62; height at base, 23; width at base, 21; bill from nost., 38; tip of bill to center of pupil, 83; occiput, 102; from frontal feathers to occiput, 60; from head of tibia to end of middle claw, 195; tibia, 90; bare portion, 14; tars, 47; mte., 57; claw, 8; hte., 18; cl., 5.

4785. *Scops asio trichopsis* ♂ ad. 225; 675; 168; 87; cul. + cere, 20; cere, 8.5; cul., 14; gape, 22; tip of bill to center of pupil, 29; to occiput, 46; base of cere to occiput, 37; tars, 37; mte., 29; claw, 11; hte., 19; claw, 10.5; inner cl., 13; outer cl., 10. Irides yellow. Cere & bill plumbeous olive the latter tipped with horn color. Claws plumbeous at base shading to black at tip. Parent of set $\frac{2}{5}$. Stomach contained Desert Mouse.

4786. *Tringa minutilla* ♂ ad. length to end of claws, 173. 147; 277; 88; 43; cul., 17; gape, 17; from head of tibia to end of middle claw, 68; tibia, 31; bare portion, 9; tars., 18; mte., 20; cl., 4.2.

4787. *Passerculus s. alaudinus*. ♀ ad. 141; 223; 70; 55; cul., 10.6; gape, 11.2; tars., 20; mte., 18; claw, 5.

4788. *Passerculus s. alaudinus*. ♂ ad. 141; 237; 71; 56; cul., 11; gape, 12.2; tars., 20.5; mte., 19; claw, 5.5.

4789. *Helminthophaga luciae* ♂ ad. 119; 189; 62; 48; nost., 7; gape, 11; tars., 16; mte., 14; claw, 4.

4790. *Geothlypis trichas occidentalis* ♂ ad. 135; 186; 60; 57; cul., 12; nost., 7.8; gape, 14; tars., 20; mte., 18; claw, 5.

4791. *Empidonax obscurus* ♂ ad. 152; 244; 75; 67; bill nost., 9; gape, 18.5; tars., 19.5; mte., 14; claw, 5.

4792. *Myiarchus cinerascens* ♂ ad. 217; 328; 105; 100; cul., 20; nost., 16; gape, 27; tars., 23; mte., 20; claw, 6.5.

4793. *Stelgidopteryx serripennis* ♀ ad. 138; 303; 108; 53; cul., 7.5; nost., 5.5; gape, 14; tars., 11; mte., 16; claw, 5.5.

4794 *Tringoides macularius* ♀ ad. Length to end of claws, 230. 264; 356; 116; 60; cul., 24; gape 27; from head of tibia to end of middle claw, 87; tibia, 39; bare portion, 11; tars., 25; mte., 24; claw, 5.

No. 403 *Dipodomys ordii* ♀ ad.

Total length, 260 Head and body, 102 Tail to tip of vertebrae, 140; to end of hairs, 160. Ears above crown 10; above notch, 13; width, 13 Between eyes, 17 Chest girth, 90 Longest whiskers, 60 Tip of nose to front teeth, 8.5; eye, 24; centre pupil, 27 ear, 35; meatus, 35; tip of ear, 48; occiput 41 end of hind leg, 178 Fore limb from coracoid from olecranon, 31; manus, 13; longest cl., 5.5 Hind limb from head femur, 88; from knee 68 Pes, 33; longest cl., 5.

No. 404 *Dipodomys ordii* ♂ juv. Young of above parent (no. 403) with eyes just open.

April 28th, 1886. Ft. Verde, Arizona

4795 *Hesperiphona vespertina* ♂ ad. The folded reaches the end of the upper tail-coverts, 204; 357; 120; 77; cul., 21; nost., 16; gape, 21; height at base 17; width, 14.6. Tip of bill to centre of pupil, 28; to occiput, 43; base of bill to occiput, 26; between eyes, 20; tarsus, 21; mte., 23; cl. 6. mte., 16; cl., 6.5; inner cl., 5; outer cl., 5. Irides dark hazel. Bill bright yellowish-green. Legs + feet flesh-brown. Claws dusky. Axillars + lining of wings mixed yellow and black, the former occupying most of the proximal portion (as far as the carpal joint) but reduced to a narrow edging upon the distal portion.

4796 *Hesperiphona vespertina* ♀ ad. 203; 340; 111; 70; cul., 21; nost., 16.5; gape, 23; height at base, 15; width, 14.5; tars., 21; mte., 25; claw, 7; Colors of parts same as above.

4797 *Petrochelidon lunifrons* ♂ ad. 139; 292; 104; 49; cul., 8; nost., 5.2; gape, 14; tars., 12; mte., 17; claw, 5.2. Irides,

hazel. Bill, blue black. Legs + feet dark brown; claws blackish. 4798. *Petrochelidon lunifrons* ♂ ad. 146; 296; 107; 53; cul., 8; nost., 5.8; gape, 16; tars., 13; mte., 16; claw, 5.5.

4799. *Petrochelidon lunifrons* ♂ ad. 144; 301; 105; 53; cul., 8.5; nost., 6; gape, 15; tars., 12; mte., 17; claw, 5.5.

4800. *Petrochelidon lunifrons* ♂ ad. 143; 297; 107; 55; cul., 8; nost., 5.5; gape, 15; tars., 12; mte., 15; cl. 5.3.

4801 *Spizella breweri* ♂ ad. 137; 197; 65; 64; cul., 9.5; gape, 10; tars., 17; mte., 17; cl. 5.

4802 *Spizella breweri*, ♂ ad. 136; 200; 64; 64; cul., 9.5; gape, 10; tars., 17; mte., 17; cl., 5.

4803. *Petrochelidon lunifrons* ♀ ad. 145; 295; 106; 50; cul., 7.5; nost., 5.3; gape, 14; tars., 12.5; mte., 15; claw, 5.

4804 *Petrochelidon lunifrons* ♀ ad. 144; 296; 104; 53; cul., 8; nost., 6; gape, 16; tars., 12; mte., 17; claw, 5.5.

4805 *Petrochelidon lunifrons* ♀ ad. 138; 293; 103; 50; cul., 7.7; nost., 5.5; gape, 14; tars., 12; mte., 16; claw, 5.

4806 *Petrochelidon lunifrons* ♀ ad. 145; 300; 107; 53; cul., 8; nost., 6; gape, 15; tars., 13; mte., 16; claw 5.

Soft parts in all of the above colored like No. 4697. *Icterus bullocki*. - First seen.

Hesperiphona vespertina. - A flock of six in cottonwood tree beside Verde River. Gropes filled with worms + small white seeds.

April 29th, 1886. Ft. Verde, Arizona

Chordeiles acutifrons texensis. - First seen. One *Pyrocephalus rubinus mexicanus*. - A wounded

one defended itself savagely, snapping its bill as loudly as an Owl. It escaped although I nearly had my hand upon it.

Tyrannus vociferans. - Very common, coursed about over the bushy plains, alighting on stubs of sagebrush, and screaming and fighting with its kindred constantly.

Icterus cucullatus ulsori } Both are now abundant. *Icterus bullocki* }

No. 405. *Dipodomys ordii* ♀ juv. Progeny of no. 403 in nest with no. 404. ♂ juv. and one other.

- 4807. *Pteropus bullocki* ♀ ad. 215; 313; 100; 88; cul., 18; gape, 20; tars., 24; mte., 23; claw, 7.
 - 4808. *Tyrannus vociferans* ♀ ad. 230; 403; 128; 97; cul., 22; nost., 16; gape, 28; tars., 19; mte., 22; claw, 7.
 - 4809. *Dendroica aestiva* ♂ ad. 129; 200; 66; 50; ~~21~~; 7.7; gape, 14; tars., 18.5; mte., 14; claw, 4.8.
 - 4810. *Melanerpes formicivorus* ♀ ad. 267; 515; 162; 95; cul., 27; gape, 34; tarsus, 24.5; mte., 28; cl., 10.
 - 4811. *Pteropus bullocki* ♂ ad. 204; 317; 102; 85; cul., 19; gape, 21; tars., 24.5; mte., 23; cl., 7.
 - 4812. *Pteropus bullocki* ♂ ad. 204; 315; 102; 84; cul., 19.4; gape, 21; tars., 23; mte., 23; cl., 8.
 - 4813. *Pteropus bullocki* ♂ ad. 198; 324; 103; 84; cul., 19; gape, 20.5; tars., 26; mte., 23; cl., 6.5.
In the above 3 specimens the irides are hazel. Bill blue-black on maxilla; mandible grayish-blue. Tarsi feet & claws bluish-gray.
 - 4814. *Pteropus cucullatus nelsoni* ♂ ad. 206; 281; 92; 96; cul., 19.5; gape, 21.5; tars., 22; mte., 21; cl., 6.
 - 4815. *Pteropus cucullatus nelsoni* ♂ ad. 204; 275; 88; 91; cul., 21; gape, 22; tars., 23; mte., 22; cl., 6.
In this spec. & the above the irides are hazel. Bill blue-black, with gape of mandible clear blue. Tarsi, feet & claws ~~black~~, the latter somewhat dusky.
- May 1st 1886. Ft. Verde, Ariz.
- 4816. *Tachycineta thalassina* ♂ ad. 136; 310; 114; 54; cul., 7; nost., 4.2; gape, 13; tars., 11; mte., 13.5; claw, 4; hte., 8.3; claw of bill, 3.7.
 - 4817. *Tachycineta thalassina* ♂ ad. 130; 302; 115; 48; cul., 7; nost., 4.8; gape, 13; tars., 10; mte., 14; cl., 4.8.
 - 4818. *Pteropus cucullatus nelsoni* ♀ juv. 199; 272; 88; 88; cul., 19; gape, 22; tars., 22; mte., 22; claw, 6.5.
 - 4819. *Xanthocephalus xanthocephalus* ♂ ad. 280; 460; 150; ¹¹⁴114; cul., 23.5; gape, 24; tars., 37; mte., 39; claw, 13.
 - 4820. *Molothrus ater obscurus* ♂ ad. 186; 324; 102; 79;

- 4821. *Buteo swainsoni* ♀ ad. 510; ; 420; 215; cul. & cere, 34; cere, 14.5; cul., 23; gape, 41; tars., 72; mte., 55; claw, 19; hte., 41; cl., 24; inner cl., 22; outer claw, 14; Irides bright hazel. Cere lemon yellow. Bill & claw plumbeous black, ~~bill~~ former bluish at base. Legs & feet lemon yellow. This bird was very gentle. She was shot on a ^{ant}cottonwood limb next to the tree in which her nest was built. Her oviduct looked as if it had recently been traversed by an egg. Three more eggs would speedily have been laid. She had eaten a ~~very~~ large lizard and several horned lizards shortly before I killed her. One of the eggs (largest) measured 30 mm. in diameter. I did not attempt to climb to the nest.
- May 4th 1886. Ft. Verde, Ariz.
- 4822. *Xanthocephalus xanthocephalus* ♀ ad. 230; 376; 125; 96; cul., 21; gape, 21; tars., 31; mte., 33; cl., 12. Irides, hazel. Bill with maxilla blackish, mandible horn-color. Legs, feet and claws, black.
 - 4823. *Xanthocephalus xanthocephalus* ♀ ad. 227; 373; 119; 88; cul., 19; gape, 19; tarsus, 31; mte., 31; cl., 9.
 - 4824. *Xanthocephalus xanthocephalus* ♀ ad. 221; 364; 116; 92; cul., 19; gape, 19.5; tars., 31; mte., 31; cl., 11.
 - 4825. *Molothrus ater obscurus* ♂ ad. 186; 317; 102; 74; cul., 16; gape, 16; tarsus, 24; mte., 25; cl., 7.
 - 4826. *Molothrus ater obscurus* ♂ ad. 190; 322; 102; 80; cul., 16; gape, 16; tars., 25; mte., 25; cl., 7.5.
 - 4827. *Molothrus ater obscurus* ♂ ad. 196; 324; 110; 80; cul., 15.6; gape, 15.6; tarsus, 24; mte., 25; cl., 7.
 - 4828. *Molothrus ater obscurus* ♂ ad. 189; 323; 104; 78; cul., 17; gape, 16.5; tarsus, 25; mte., 25; claw, 8.

Quailpai Vocabulary { Inked over Feb. 15, 1903, Not used, made out.

- Molothrus = Há-se-quá.
- Xanthocephalus = Sad-a-sol-a-sol.
- Felis concolor = Nu-me-te.
- Odocoius hemionus = A-quack'-a.
- Odocoius "alleni" = A-quack-a-min-sabe.
- Urocyon c. scottii = A-coit'.
- Bassaris = A-mal'-a-ga-ta.
- Canepatus = Hue-wa.
- Spilogale arizonae = Saeha-macha.
- Mephitis estor = Khin.
- Lepus arizonae major = Hu-lo ("all same white rican's hello").
- Lepus texianus = A-ku'-la.
- Spermophilus harrisi = Ham-e'-da.
- Spermophilus grammurus = Han-e'-la-da.
- Sciurus arizonensis = Ma-qui-hi-ta.
- Sciurus aberti = Ma-qui-hi-ta.
- Neotoma i. albigula = Mal-e-ga.
- Taxidea = Ma-hu?
- Sigmodon h. arizonae = Tu-sa.
- Peromyscus = A-way, mal-e-ga.
- Perodipus chapmani = -hul'.
- Castor = Ap-e'-na.
- Fiber z. pallidus = Khu-to.
- Antilocapra = Au-uhl'.
- Spermophilus tereticaudus = See-se.
- Onychomys melanophrys = Pan-k-e'-te-quan.
- Curlew = Han-ye-wee-la.
- Glossy Ibis = Han-ye-wee-la.
- Ruddy Duck = Hac-en-ye-mo.
- Fulica = A-kok.
- Cinnamon Teal = Hac-en-ye-mo.
- Ring-billed Gull = Lue-sa-bel-e-ya.
- Merganser americanus = Na'-zwa-y.
- Robin = Hual-go-mache.
- Crissal Thrasher = Huté'-ga-téu.
- Hermits Thrush = Ye-pais-ah-wi-ti.
- Fauvel's Quail = Ma-sa-wi.
- Palmer's Thrasher = Same as Crissalis.

Quailpai Vocabulary.

- Le Coule's Thrasher = "all the same" as H. crissalis.
- Bendire's = do.
- Oreoscoptes = "all the same" as Robin and Hermit Thrush.
- Mockingbird = Kou-hui'-la.
- Sialia hirtica = Cap'-so.
- Sialia mexicana = Se-pic'-a-gua'-se.
- Ouzel = Haul-gui-amdi.
- Phainopepla = Sa'-gu-gua.
- Meadowlark townsendi = Che-pi-hé.
- Lophophanes inornatus = Sape-mam-i-man.
- Mountain Titmouse = Hual-mai-gi-mach.
- He says the
- Regulus calendula = Mad-am-cheep.
- Yellow-headed Tit = Pes-pié.
- Poliophtila melanura = "No sabe."
- Cactus Wren = Tus-ku-hua'-ti.
- Salpinctes obsoletus = Tu-tee.
- Catherpes = Yell-e-te-te-Knake.
- Telmatorhynchus = "No sabe."
- Bewick's Wren = "No sabe."
- Sitta carolinensis nelsoni = E'-ke-si-pa-be.
- Sitta pygmaea = "Pretty near same" as above.
- Anthus pensilvanicus = "Me sabe - no sabe name - by the water."
- Yellow Warbler = Che-pai-a-gua-tha.
- Helminthophila luciae = "No sabe."
- " celata = "No sabe."
- " virginiae = "No sabe."
- Dendroica nigrescens = "No sabe."
- " audubonii = "No sabe."
- Chondestes tolmei = "No sabe."
- Geothlypis trichas occidentalis = "No sabe."
- Mniotiltus pusilla = all same Che-pai-a-gua-tha.
- Petroica virens longicauda = Chu-chu-ge-o'-wa.
- Shrike = "Sabe. He lives in my country = Ma-h'-ra-se'.

Hualpai Vocabulary.

- ✓ Solitary Vireo = E-le'-ga-~~ma~~che.
- ✓ Altus Vireo (7 species) "All same"
- ✓ Violet-green Swallow = Wilk'-fa'-de.
- ✓ Cooper's Jay = Che-pai'-a-hua-ta.
- ✓ " " ♂ = "Woman"
- ✓ " " ♀ = "All same as Cooper's."
- ✓ Western " " ♂ = "All same as " "old man"
- ✓ " " ♀ = "No name"
- ✓ Barn Swallow = Wilk'-ka'-de.
- ✓ Cliff " = All same.
- ✓ Rough-wing " = " "
- ✓ Bullock's Oriole = Si-2'-ron-~~...~~-itty.
- ✓ Scotts " = Se-pai'-nu-da. ♀ we name.
- ✓ Hooded " = Chu-chu-ge-o'-ma
- ✓ Black Pewee = no name.
- ✓ Yellow-headed Blackbird ♂ = Ha-se-gua.
- ✓ Western Kingbird = Heap man of Chu-chu-ge-o'-na make all same noise (He sticks to it)
- ✓ Brewer's Blackbird = Cho-~~...~~
- ✓ Dwarf Cowbird = All name Cho-can
- ✓ Western Meadow Lark = Tack-a-seede.
- ✓ Say's Flycatcher = "We know, no name name."
- ✓ Olive-sided " = no name.
- ✓ Empidonax genus = " "
- ✓ Ash-throated Flycatcher = Pack-a-teed.
- ✓ " " = All same.
- ✓ Least " = E-~~...~~ te-nuk.
- ✓ Poor-will = Meen-yak-a
- ✓ Screech Owl = Yi-cum-pa-ba.
- ✓ White-throated Swift = No other kind Wilk-a
- ✓ Yellow-billed Cuckoo = Qua-le-toi'
- ✓ Spizella monticola = E-ku-si-pa-be.
- ✓ Picus pubescens gairdneri = E-ku-si-pa-be
- ✓ (Other kind all the same)
- ✓ Vermilion Flycatcher = no name.
- ✓ Thomomys umbrinus = Go-to-o' o.
- ✓ (other kind) Chu-mi-ba (Colton-Rat)

Hualpai vocabulary.

- ✓ Sora Rail = Haul'-gua-an'-te.
- ✓ Least Trichopsis = Sa-po-~~...~~ Ko'
- ✓ Hummingbird (2 young in nest T. alexandri) = Min-mean.
- ✓ Red-tail Hawk (immature) = Su-qual'-a.
- ✓ Buteo zonocercus = Su-qual'-a. Ni-da ("ni-da = black), ~~...~~
- ✓ Accipiter cooper = Su-cool'-a.
- ✓ " fusces = all a same as Su-cool'-a
- ✓ Barn Owl = Chill-gu-mi-hi.
- ✓ Red-breasted Merganser = Han-n-ei-la.
- ✓ Fool Quail = Ock-ma-ta.
- ✓ Band-tail Pigeon = Qua-le-toi'
- ✓ Raven = A-cock'
- ✓ Road-runner = Fill-poo'.
- ✓ Green Heron = Ki-oo'
- ✓ House Mouse = # Co-wa'-a
- ✓ Brook Trout = a-ge'. (a as in hat) Indian no like em - no eat em. They refused to eat a box of Satchels.
- ✓ Cottontail = a-hi.
- ✓ Abert's Squirrel = Ma-sai'-hi ta
- ✓ Leamon Spermophile = Him-mill'-e-da.
- ✓ Fremont's Squirrel = Him-mai'-ig-ga-ta.
- ✓ Harris's Squirrel = Him-mei-da
- ✓ Prairie Dog = Tuck-se'
- ✓ Wild Turkey = E-gos'
- ✓ Long-eared Bat = Cho-a-pai-e-ga.
- ✓ Two other species = Cho-a-pai-e-ga all same
- ✓ Lt. Horned Owl = You-o.
- ✓ Marsh Hawk = Horn-a-gay
- ✓ Crow = a-ck-saw-a.
- ✓ Blue Nighthawk = Coo-ah'-a
- ✓ " " = no name.
- ✓ Shrike Wren = Sad-mom-e-moni
- ✓ Woodhouse's Jay = Jut-josh.
- ✓ Arizona " = all same no other kind.
- ✓ Killedeer = Ham'-a-a.

May 10th, 1886.

4829. *Recurvirostra americana*. Fad. Agua Fria creek, 24 miles W. of Ft Verde, Arizona. Length to end of claws, 600; 455; 775; 237; 95; Cul. (Chord) 89; curve of Culmen, 93; gape, 94; leg from head of tibia to end of middle claw, 267; tibia, 126; bare portion 69; tarsus, 96; intc. 49; Cl. 6.2. Tip of bill to centre of pupil, 106; to occiput, 130; base of bill to occiput, 37; middle toe 43; Hallux, 5; cl. 2.7; middle toe, 35; cl. 5; outer toe, 38; cl. 4.5. Inner web, 19.5; outer web, 2.2.

May 8, 1886. Verde Valley, Arizona.

Soon after noon I started on horseback to see a man in a mining camp fifteen miles from the Post in the foot-hills of the Black Hills, near the Conger Mines. I missed the trail and got a good way up the hills above the mining-camp, which I did not reach till sundown, when I found my man with a dislocated thigh which was also broken at the neck of the bone. I made arrangements to have him brought down to the Hospital the next day, and then rode home. The evening was moonlit and the country pleasant. Hundreds of Mockingbirds were singing and Poor-wills (*Chalænoptilus nuttalli*). The latter began to sing at sundown, and were the first heard this spring. *Peterus parisorum* was also first seen, and singing deliciously near the mining-camp.

Pipilo fuscus mesoleucus. - Was quite common; evidently breeding, and singing.

Aphelocoma woodhousei. - Abundant. I searched in the oak brush for some time before I could discover a nest. At length, when walking up a steep trail to the shaft of a mine, I saw a nest in a small, ^{deciduous} oak-tree, ten feet above the ground. The parent was sitting, and flew ^{silently} away. I did not disturb the nest until I had been to the mines; where, failing to find

anyone I returned and found the birds still away from the nest. When I climbed up to it, however, they came up to the mangroves and scrub oaks near me, and uttered a low, complaining cry, but were very timid and shy. The eggs measured, respectively, 25x19.5; 28x20; 26x19.7; 26.5x19.6; 27.6x19.5. Three were added and easily blown; but the remaining two contained large embryos and have not yet been emptied of their contents. They bear a close resemblance to Mockingbird's eggs, but are more polished and brighter greenish in color with more distinct markings of sepia brown and lilacish blotches and spots.

Mimus polyglottus. - A set of 3 eggs was taken from a mesquite-bush a few feet from the ground.

Lophortyx gambeli. - When galloping over a level mesa my horse set her foot into a small tuft of soapweed whence a crippled quail fluttered out. On dismounting I discovered a nest containing seventeen eggs, all but two of which were broken by my horse's foot. They contained small embryos, and the two whole eggs were preserved.

I was struck by the great plenty of flowers of the orders *Leguminosae* and *Compositae*, and many other interesting flowering plants and shrubs were seen. Spanish Bayonets are now blooming and soapweeds are sending up their flower-stalks. A composite probably identical with the Autumn Senecio of the east was very beautiful and conspicuous upon the hillsides. A small shrub with close-leaved twigs having leaves of dark green and shaped like alder or Hazel were seen for the first time.

May 13th 1886. Ft. Verde, A.T.

- 4,830. *Dendroica aestiva*. ♀ ad. 129; 198; 64; 45; nost'l, 7; gape, 13.5; tars., 19; mte., 15; cl., 4.
 - 4,831. *Dendroica aestiva*. ♀ ad. 126; 193; 62; 45; nost'l, 7; gape, 13; tarsus, 18; mte., 14.5; cl., 4.
 - 4,832. *Tachycineta thalassina*. ♂ ad. 133; 318; 119; 53; cul., 6.2; nost'l, 5; gape, 12.5; tars., 9.2; mte., 14; cl., 4.
 - 4,833. *Icterus bullocki*. ♂ ad. 205; 325; 103; 86; cul., 20; gape, 23; tars., 25.5; mte., 25; cl., 7.5.
 - 4,834. *Myiarchus cinerascens*. ♀ ad. 217; 320; 98; 98; cul., 19.3; nost'l, 13; gape, 26; tars., 22; mte., 18; cl., 7.
- Zenaidura macroura*. A set of 2 eggs from mesquite bush, 4 feet from the ground.
Mimus polyglottus. Set 4 eggs. Mesquite, 3 feet.

May 14th 1886. Ft. Verde, A.T.

- 4,835. *Coccythraustes vespertina*. ♀ ad. One of the most copulant birds, aside from certain Waders, that I ever saw. It was shot in a sycamore-tree on Beaver Creek. 204; 343; 110; 68; cul., 21; nost'l, 16; gape, 22.5; tars., 21.5; mte., 23.5; cl., 7.
- 4,836. *Pyrranga ludoviciana*. ♂ ad. 190; 312; 98; 76; cul., 17; nost'l, 12; gape, 20; tars., 22; mte., 20; cl., 6.
- 4,837. *Micropus melanoleucus*. ♂ ad. 153; 320; 136; 62; cul., 5.5; nost'l, 3; gape, 16; tars., 9.8; mte., 11; cl., 6. Irides, hazel. Bill, plumbeous-black. Legs and feet, purplish flesh-color; claws, purplish-brown. This pair probably had a nest near the cliff dwelling on Beaver Creek.
- 4,838. *Nycticorax nycticorax naevius*. ♂ Immature. Length to end of claws, 865; 667; 1195³³⁸; 122; cul., 80; gape, 110; height of bill at base, 22; width at nostrils 19; from head of tibia to end middle claw 320; tibia, 143; bare portion, 33; tarsus, 90; middle toe and claw, 94; cl., 16. Irides, red.
- 4,839. *Bubo virginianus subarcticus*. ♂ juv. Just able to fly. Stomach cont. small pellet of hair, ^{major bird's} bones and small worms. *Mergus serrator*. - A female on Beaver Creek.

May 16th 1886. Ft. Verde, Arizona.

A large flock of Ducks was seen flying over the Post this evening and later a flock of seven flew over. The latter I thought were *Mergus* *scalaris*. - A pair has bred in the Cottonwood-tree in the Post each year since I came here (3 seasons). This spring they excavated a burrow in a dead cottonwood; but the tree was chopped down just about the time they had completed it. They then burrowed in a live branch of a cottonwood, commencing just below a branch. The burrow was opened, somewhat prematurely last night, and contained 3 fresh eggs. The hole was smooth and of about uniform calibre, with a few chips at the bottom, upon which the eggs rested. *Petrochelidon lunifrons*. - They are just completing their nests, 19 in number under our porch. When completing the tubular entrance they exercise great care and nicety, and their neighbors look on with evident pleasure and congratulation.

May 17th 1886.

- Rode to Beck's Lake with Major E. K. Catey and Lt. Mason.
- 4,839. *Recurvirostra americana*. ♀ ad. Shot on the Rio Verde, at Conger Mill 8 miles north of Ft. Verde. Length to end claws, 595; 453; 226; 88;
 - 4,840. *Aegialitis vociferus pullus*.
 - 4,841. *Aegialitis vociferus pullus*.
 - 4,842. *Aegialitis vociferus pullus*.
- The three Killdeers were picked up in a sandy wash as we drove along in the buckboard late at night. The old birds made a great outcry and fluttered helplessly upon the ground. The young ran nimbly. The next day I found the pair in the same place, with a single young one, four having been in the clutch.

May 18 1886. PIER'S LAKE.

- 4843 Steganopus wilsoni ♀ ad. Length to end of claws ~~293~~ 293; 352; 437; 135; 64; cul., 35; gape, 36; from head of tibia to end of middle claw, 114; tibia, 48; bare portion, 19; tars., 35; mte., 30; claw, 5; Bill, legs feet and claws, black. A mated pair (4843 + 4844)
- 4844 Steganopus wilsoni ♂ ad. Length to end of claws, 275 — 230; 407; 125; 56; cul., 33; gape, 35; from head of tibia to end of middle claw, 107; tibia, 48; bare portion, 17; tars., 33; mte., 27; claw, 4.5; The male wears the darkest plumage and is smallest!
- 4845 Rallus virginianus ♀ ad. Length to end of claws, 212; 238; 352; 103; 47; cul., 38; gape, 38; leg from head of tibia to end middle claw, 122; tibia 54; bare portion, 14; tarsus, 34; mte., 38; cl., 7
- 4846 Rallus virginianus ♂ ad. Length to end of toes, 360 268; 380; 111; 50; cul., 43; gape, 44; leg, 137; tibia, 60; bare portion, 16; tarsus, 38; mte 43 cl., 7; mte, 14; claw of hallux, 5.
- 4847 Rallus virginianus ♀ ad. Length to end of claws 328. — 238; 345; 100; 45; cul., 38; gape, 40; leg, 127; tibia, 53; bare portion, 13; tars., 35; mte., 40; cl., 7.
- 4848 Agelaius phoeniceus ♂ ad. 242; 395; 129; 49; cul., 21; gape, 22; tars., 30; mte., 27; cl., 7.
- 4849 Porzana carolina ♀ ad. Length to end of claws 285. — 218; 350; 107; 52; cul., 21; gape 21; leg, 125; tibia, 52; bare portion, 12; tars., 32; mte., 4; claw, 7.
- 4850 Paributeo unicinctus harrisi ♀ ad. ^{1215;} 580; 365; 265; cul + cere, 40; cere, 15; cul., 27; gape, 41; tars., 90; mte., 70; ~~45~~ mt, 50; claw, 23; inner claw, 28; outer claw, 17; hind claw, 31. Cere + space in front of eye, greenish yellow. Bill bluish, plumbeous black at tip of both mandibles. Claws blue black, tarsi + feet lemon yellow. Moulting; the ^{new} quills being strong of the

- adult plumage while those still worn are of the immature plumage. Stomach empty.
- 4851 Botaurus lentiginosus ♀ ad Length to end of claw, 855. — 610; ~~610~~; 980; 265; 85; cul., 75; gape, 95; leg, 315; tibia, 127; bare portion, 35; tars., 87; mte., 103; cl., 19; hte., 67; cl., 28; inner claw 25; outer claw, 18.
- 4852 Fulica americana ♀ ad. Length to end of claws, 490. 370; 630; 178; 55; cul. measured from frontal feathers, 42; gape, 82; leg, 222; tibia, 90; bare portion, 18; tars., 52; mte., 78; claw, 13. Not skinned.

May 21st 1886. Ft. Verde, A.S. Rode down the Verde as far as Jordan's. Took the following sets of eggs:

- Zenaidura macroura set of 2 in cottonwood
- " " " " 1 " "
- Ceryle alcyon " " 1 " "
- Astragalinus psaltria " " 4 " willow.
- Tyrannus verticalis " " 3 " sycamore.
- Icteria virens longicauda " " 4 " Composite woods.
- 4854 Myiarchus mexicanus magister. ♂ ad. This bird uttered a very loud whistle, and note like "Bob-white". They are irritable and pugnacious. 255; 375; 115; 114; cul. 25; nostril, 19; gape, 33.5; tarsus, 27; mte 23; cl. 8. Irides, hazel. Bill, brownish-black. Legs, feet and claws, dusky-plumbeous.
- 4855 Myiarchus mexicanus magister ♀ ad. 240; 360 108; 100; cul., 24; nostril, 18; gape, 32; tarsus, 25; mte 25; cl. 8.
- 4856 Laniaca caerulea. ♂ ad. The first seen this year. 184; 289; 93; 78; cul. 27; gape 20; tarsus, 20; mte., 22.5; cl., 6. Irides, hazel. Bill with maxilla dusky-plumbeous; mandible bluish-gray. Legs, feet and claws, dusky plumbeous.

4857. *Pyrocephalus rubineus mexicanus* ♂ ad. 147; 254; 80; 58; cul., 13.2; nost'l, 9; gape, 18; tars., 15.5; mte., 14; cl., 5.

4858. *Astragalinus psaltria* ^{arizonae} ♀ ad. Parent of set 4 eggs. 116; 203; 66; 48; cul. 9; gape, 10; tarsus, 14; mte., 15; cl. 5.

4859. *Tyrannus verticalis*. ♂ ad. 222; 386; 127; 98; cul. 20; nost'l, 13; gape, 25; tars., 17; mte., 20; cl. 6.7. Parent of set 3 eggs.

4860. *Sterna virens longicauda*. ♂ ad. Parent set 4 eggs. 192; 253; 80; 84; cul. 15; nost'l, 11; gape, 19; tars., 28; mte., 22; cl., 6.

4861. *Phainopepla nitens* ♂ ad. 206; 300; 97; 100; cul. 11.5; nost'l, 8; gape, 16; tars., 18; mte., 17.5; cl. 5.5.

4862. *Phainopepla nitens*. ♂ ad. 206; 300; 94; 99; cul. 11.6; nost'l, 7; gape, 16.5; tars., 18.5; mte., 18; cl. 5.

Anas boschas. - Several seen.
Spatula clypeata. Four seen together. Several other species of ducks are seen frequently especially flying over the port in the evening.

May 24th, 1886. Ft. Verde, A.T.

4863. *Lallopavo mexicana*. ♂ pullus.

May 26th, 1886. Ft. Verde, A.T.

4864. *Pyrocephalus rubineus mexicanus*. ♂ ad. 153; 255; 84; 63; cul., 14; nost'l, 9.5; gape, 17; tars., 15; mte., 12.5; cl. 5.

4865. *Melospiza fasciata fallax*. ♀ ad. Parent of set 3 eggs. 152; 206; 63; 66; cul. 12; gape, 12.5; tars. 21.5; mte., 19.6; cl., 5.2.

4866. *Tringoides macularius* ♂ ad. ^{Parent of set 3} length bend of claws 320. 195; 335; 117; 55; cul. 22.5; gape, 26; from head of tibia to end of mid. claw, 84; tibia, 37; bare portion 9; tars., 23; mte., 22; cl., 4.

4867. *Aegialites vociferus* ♂ ad. 253; 512; 164; 100; cul., 20; gape, 22; ~~from~~ from head of tibia to end of middle claw, 110; tibia, 47; bare portion, 16; tars., 34; mte., 28; claw, 5.

4868. *Aegialites vociferus* ♀ ad. 264; 515; 167; 100; cul., 20; gape, 23; from head of tibia to end of middle claw, 114; tibia, 53; bare portion, 17; tars., 35.5; mte., 25; claw, 5.8. Parents of set 4.

4869. *Larus bullocki* ♂ ad. 258; 315; 102; 87; cul., 18; gape, 19.5; tars., 23; mte., 22; claw 6.7.

4870. *Larus bullocki* ♀ ad. 204; 303; 95; 81; cul., 17; gape, 19; tars., 22; mte., 23; claw, 6.8.
May 27th to 1886

4871. *Accipiter cooperi* ♀ ad. 480; 840; 263; 225; cul. + cere, 28; cere, 11; cul., 19; gape, 28; tars., 65; mte., 58; claw, 16. Parent of set of 3 eggs.

4872. *Falco peregrinus* ♀ ad. 470; 1010; 348; 180; cul. + cere, 32; cere, 9; cul., 24; gape, 34; tars., 54; mte., 70; claw, 19. inner ²²; outer, 18; hte., 25. Irides hazel. cere space ⁽²²⁾ around eye greenish yellow. Bill greenish at base shading to plumbeous black at tip. Tarsi & feet yellow, claws plumbeous black.

May 29th, 1886. Ft. Verde.

4873. *Stelgidopteryx serripennis*. ♀ ad. 136; 288; 103; 49; cul., 7; nost., 5; gape, 14; tars., 11.5; mte., 15; claw, 5.2.

May 30th, Ft. Verde, A.T.

Took a short ride across the River. Took the following eggs.
Vireo pusillus (set of 3 - 2 + 1 molothus. All contained *Molothrus obs.*) large embryos. Mesquite bush 2 feet.
Zenaidura macroura. - Set 2 willow 8 feet.
Colaptes costae. Set 2; could not extract embryos. The female exhibited surprising tenacity. She replaced herself upon the nest as often as driven off. Buzzed furiously around my head and was finally caught in my hand. Nest preserved. The eggs measure 8x13 and 8.2x12.

Note. - A man on upper Salt River killed five Otters in 1885, near Archie McIntosh's place. The Otter is called by the Mexicans Pobo del agua. Daniels has seen tracks on the Sonora River, Mexico, where he also found Beavers. He found both Otters and Beavers on the Gila River.

May 28th 1886. Ft. Verde, A.S.

By the driver of the water-wagon brought me a large female Beaver which he killed under the bank of Beaver Creek with a large stone. His dog caught one of its young ones which he also brought to me. Both were carefully skinned for mounting and sent in pickle to the American Museum.

- 406 Castor fiber canadensis. ♀ ad. Total length, 1080. From tip of nose to end of hairs on caudal peduncle, 325. From anus to end of tail, 365. Tail, from end of hairs, 275; width of tail, 155. Lowest girth, 580. Loin girth, 665. Belly girth, 790. Neck girth, 360. Tip of nose to front teeth, 33; to eye, 65; centre pupil, 75; ear 125; meatus 140; tip of ear, 175; occiput, 175; end of outstretched hind leg, 920. Fore limb, measured from coracoid, 234. From olecranon 190; manus, 85; width of manus, 40. Inner cl., 16; 2nd 20; 3rd 22; 4th 20; 5th 14. Hind limb from head femur, 380; from palette, 318; pes, 185; width of pes taken at base of web, 55. Inner claw, 15; 2nd 19; 3rd 22; 4th 24; 5th 16. Longest whiskers 95. Between eyes, 67. Ears, height above crown, 35; above meatus, 40; width, 48. Weight 42 lbs avoird. The mammae are 2 pairs all thoracic. The anterior pair are exactly between the fore legs 110 mm apart. The posterior are more lateral, just behind the axillae, and 160 mm apart. They are 90 mm from the anterior mammae.

No. 407

Castor fiber canadensis. ♂ juv. Total length, 340. Tail from hairs, 70; tip of nose to occiput, 76. From anus to tip of tail, 97. Progeny of above.

4874

Empidonax pusillus ♀ ad. 147; 220; 68; 59; nost'l, 10; gape, 17.5; tars., 16.5; mte., 14; cl. 5. Irides hazel. Bill with maxilla dark brown; mandible yellow. Legs, feet and claws, black.

June 4th 1886. Ft. Verde, A.S.

No. 408

Fiber zibethicus, ♂ juv. half grown. Total length, 355; tail from hairs, 145; from anus, 162; tip of nose to occiput, 57. When riding beside Beaver Creek I saw a ripple and soon the form of a small mammal swimming near the bottom. I fired a load of w. I shot down upon it, and skinned this baby Muskrat.

4875

Helminthophila luciae. ♂ juv. in 1st plumage.

4876

Icteria virens longicauda ♂ ad. 190; 258; 79; 85; cul., 15; nost'l, 11; gape, 19; tars., 28; mte., 22; cl., 6.

4877

Chondestes grammacus strigatus ♀ ad. Parent of nest 3 eggs taken. 173; 276; 87; 72; cul. 14; gape, 14; tarsus, 21; mte., 20; cl., 6. Shot on the wing, as she flew from her nest in a prickly holly bush on a desert plain or mesa.

4878

Merganser americanus ♀ ad. An old bird that acted as if she had either young or a nest near-by. 590; 840; 255; 113; cul. from frontal feathers, 48; from extreme base, 58; gape, 63; bare tibia, 10; tarsus 47; mte., 66; claw, 9; mte., 22; claw of hallux, 6.

4879

Aegialitis vocifera. pullus. Photo. taken.

In the morning (June 4) drove to the Cliff Dwellings and Henderson's Rancho, on Beaver Creek.

Took two sets (3+4 eggs) of Mimus polyglottus, the first in an ash-tree 10 feet from the ground. The latter in a dense shrub, called perhaps correctly "holly" by the people around here, which bears leaves

with spine-pointed angles and light red berries of the size of whortleberries, very acid, which make excellent pies. In the same sort of bush I found the nest of Chondestes grammacus strigatus with 3 eggs. The old bird was seen sitting on the eggs and was shot as she flew off the nest.

Micropus melanoleucus - These Swifts are breeding about the cliff dwellings. Some were seen skimming the water in Beaver Creek; but nearly all were flying very high.

Accipiter velox - Saw one on Beaver Creek but could not find its nest.

In the evening Lt. Mason and I rode to Hutchinson's rancho again, following the stream (Beaver Creek) all the way in search of the brood of young Mergansers (M. americanus) which I saw on June 2nd, but, although we found and shot a female ^{which} evidently had a nest or young in the vicinity, we failed to find the young, which are about as large as Podilymbus podiceps adult, and in water resemble them. Yesterday Hutchinson's boy tried hard to catch some of them, but failed. The father said "They'll outrun a horse!" We saw a number of Bullocks and Hooded Orioles (I. I. bullocki et cucullatus nelsoni). The latter fly like Icterus spurius jutting their tails downward and singing while upon the wing.

Phainopepla nitens were more abundant than I ever saw them before. As we rode down the hill behind my quarters, I saw not less than fifty (50) upon wing at one time. The whole mesquite flat, now in full bloom, was filled with them. Their flight is peculiarly light, irregular, floating and graceful. The birds are generally shy enough to keep out of range. Females are now as abundant as males. I have always listened in vain for its song.

Vireo pusillus - Now breeding, and in full song. Wherever heard its nest may be found, more often than elsewhere attached by the bird to a low fork in the interior of a spreading mesquite bush. The Dwarf Cowbird (Molothrus ater obscurus) prefers to drop its egg if possible into the nest of this accommodating little bird. Helminthophaga luciae. Parents are now leading noisy families of young through the mesquites.

Cathartes aura - A man told me, a few days ago, that he had seen them breeding on cliffs on the Hull Road to Oak Creek. We saw 6 on a dead tree to night.

Mimus polyglottus. The flight of this bird is particularly interesting. It somewhat resembles the Magpie. The bird never appears to better advantage than when in the air. Their fearless intrepidity knows no bounds when their young are the occasion of their parental solicitude. They attack all birds or animals indiscriminately. I saw one circling and fluttering up at a great height in the air, and engaging in battle with Cassin's Kingbird (Tyrannus verticalis). Nycticorax nycticorax naevia. Two were seen on Beaver Creek.

Dendroica aestiva - A few now have young ones on wing.

Pipilo aberti. The first young ones seen on wing.

June 5th, 1886. Ft. Verde, A.T.
Rode up Beaver Creek about a mile above Hutchinson's, after young Mergansers.
Merganser americanus Fad. Parent taken with 5 half grown young ones. 595; 870; 255; 110; cul. from frontal feathers 51; from extreme
(Continued in next Vol. of Journal)

229

Index:

Index to Vol. IV

Page 1.

Mammals.

- ✓ Homo sapiens. - 214.
- + Felis domesticus. - 129 (317, 318).
- ✓ Felis concolor. - 30, 61, 65, 67, 68, 70, 71, 74, 102, 113, 124, 177, 181, 210
(286, 289, 290, 309, 310, 373, 374, 375, 376, 377).
- ✓ Lynx rufus maculatus. - ~~29~~³⁰ 57, 98, 102, 125, 128, 143, 154, 160
(281, 307, 311, 313, 335, 349, 358).
- ✓ ~~Bassarix astuta~~
~~Lynx canadensis~~. - 30, 84, 85, 89, 129, 143, 144, 210 (294, 295, 296, 304, 322)
- ✓ Canis lupus. -
- ✓ Canis latrans. - 30, 45, 177, 181, 216 (378).
- ✓ Procyon cinereo-argentatus. - 129, 130, 178, 210 (319, 325, 326, 327).
- + Mephitis mephitis. - 28, 35, 39, 40, 45, 143, 179, 210 (256, 257, 258, 267, 268).
- ✓ + Mephitis interrupta. - 30, 43, 80, 88, 89, 129, 143, 145, 154, 196, 210 (273,
291, 298, 299, 300, 320, 321, 336, 346).
- ✓ Conepatus mapurutus. - 17, 19, 27, 28, 30, 33, 38, 45, 89, 143, 210 (239, 252,
263, 301, 302, 303).
- ✓ Taxidea americana verlandieri. - 37, 178, 210 (260).
- ✓ Lutra canadensis. ~~#~~[#] 179, 225.
- ✓ Procyon hernandezii. - 51, 126, 171 (312, 368).
- ✓ + Ursus americanus. - 70, 130, 178, 216 (329).
- ✓ Cervus canadensis. -
- ✓ Caracus virginianus crooki. - 30, 210.
- ✓ Caracus virginianus mexicanus. - 30.
- ✓ Caracus macrotis montanus. - 50, 57, 58, 59, 60, 63, 64, 66, 70, 71, 73,
76, 81, 88, 129, 130, 143, 177, 184, 210 (277, 278, 282, 283, 284, 285, 288, 293, 297, 314, 315, 316, 328,
334, 335, 336).
- ✓ Antilocapra americana. - 49, 177, 181, 182, 210 (276, 379, 380, 381,
382, 383).
- ✓ Ovis montana. - 6, 145.
- ✓ Bats (all species). - 16, 45, 213 (238).

Page 1.

Mammals.

- ✓ *Homo sapiens*. - 214.
- ✓ *Felis domesticus*. - 129 (317, 318).
- ✓ *Felis concolor*. - 30, 61, 65, 67, 68, 70, 71, 74, 102, 113, 124, 177, 181, 210
(286, 289, 290, 309, 310, 373, 374, 375, 376, 377).
- ✓ *Lynx rufus maculatus*. - ~~29~~³⁰ 57, 98, 102, 125, 128, 143, 154, 160
(281, 307, 311, 313, 335, 349, 358).
- ✓ *Bassaris astuta*.
- ✓ ~~*Lynx canadensis*~~. - 30, 84, 85, 89, 129, 143, 144, 210 (294, 295, 296, 304, 322).
- ✓ *Canis lupus*. -
- ✓ *Canis latrans*. - 30, 45, 177, 181, 216 (378).
- ✓ *Procyon cinereo-argentatus*. - 129, 130, 178, 210 (319, 325, 326, 327).
- ✓ *Mephitis mephitis*. - 28, 35, 39, 40, 45, 143, 179, 210 (256, 257, 258, 267, 268).
- ✓ *Mephitis interrupta*. - 30, 43, 80, 88, 89, 129, 143, 145, 154, 196, 210 (273,
291, 298, 299, 300, 320, 321, 336, 346).
- ✓ *Conepatus mapuritus*. - 17, 19, 27, 28, 30, 33, 38, 45, 89, 143, 210 (239, 252,
263, 301, 302, 303).
- ✓ *Taxidea americana verlandieri*. - 37, 178, 210 (260).
- ✓ *Lutra canadensis*. - ~~179~~¹⁷⁹, 225.
- ✓ *Procyon hernandezii*. - 51, 126, 171 (312, 368).
- ✓ *Ursus americanus*. - 70, 130, 178, 216 (329).
- ✓ *Cervus canadensis*. -
- ✓ *Caracus virginianus crooki*. - 30, 210.
- ✓ *Caracus virginianus mexicanus*. - 30.
- ✓ *Caracus macrotis montanus*. - 50, 57, 58, 59, 60, 63, 64, 66, 70, 71, 73,
76, 81, 88, 129, 130, 143, 177, 184, 210 (277, 278, 282, 283, 287, 285, 288, 293, 297, 314, 315, 316, 328,
384, 385, 386).
- ✓ *Hyleocapra americana*. - 49, 177, 181, 182, 210 (276, 379, 380, 381
382, 383).
- ✓ *Ovis montana*. - 6, 145.
- ✓ *Bats* (all species). - 16, 45, 213 (238).

(2)

Sciurus hudsonius fremonti. - 30, 213.

Sciurus aberti. - 30, 178, 210, 213.

Sciurus "arizonensis". - 7, 30, 160, 171, 196, 210 (355, 356, 357, 363, 364, 365, 394, 395).

Tamias asiaticus quadrivittatus. - 30, 178.

Tamias asiaticus dorsalis. - 17, 29, 30, 55 (240, 280).

Tamias harrisi. - {29, 31, 45, 64, 65, 118, 159, 161, 162, 180, 193, 210, 213 (235, 287, 308, 337, 339, 340, 342, 343, 344, 345, 372)}.

Spermophilus grammurus grammurus. - 30, 46, 131, 134, 171, 174, 193, 194, 196, 197, 204, 210, 213 (330, 366, 367, 370, 371, 390, 397, 398, 399, 400).

Spermophilus tereticaudus arizonae. - 30, 210.

Cynomys columbianus. - 160, 178, 213 (359, 360).

✓ *Mus decumanus*. - 30, 40 (270).

✓ *Mus musculus*. - 30, 213.

✓⁺ *Neotoma floridana mexicana*. - 34, 52, 64, 95, 210 (254, 279, 306).

✓⁺ *Neotoma cinerea*

✓ *Sigmodon hispidus arizonae*. - 20, 30, 34, 210 (242, 243, 253).

✓ *Peromyscus arizonae*. - 27, 28, 29, 30, 34, 38, 39,

✓ *Hesperomys leucopus eremicus*. - 27, 28, 29, 30, 34, 37, 39, 40, 42, 45, 71, 81, ⁸⁹96, 210 (244, 245, 247, 248, 255, 261, 266, 269, 271, 272, 274, 305, 401).

✓⁺ *Hesperomys leucopus ^(arizonae rufinus) sonoriensis*. - 36, 38, 71 (269, 264).

Onychomys melanophrys merriami

✓⁺ *Hesperomys (Onychomys) leucogaster torridus*. - 30, 192, 210 (387).

✓⁺ *Fiber zibethicus*. - 18, 197, 210, 226 (241, 408).

✓⁺ *Lepus sylvaticus mittalli*. - 30

✓⁺ *Lepus sylvaticus arizonae*. - 30, 31, 46, 159, 161, 162, 165, 197, 210 (338, 341, 346, 347, 348, 362).

✓⁺ *Lepus texianus*. - 31, 46, 133, 134, 145, 160, 174, 210 (331, 332, 333, 334, 350, 351, 352, 353, 354, 369).

(3)

✓✓ *Lepus callosus*. - 160(?) [361(?)].

✓✓ *Erethizon dorsatus epixanthus*. - 179.

= *Perodipus chapmani*

W⁺ *Dipodomys gibbsii ordii*. - 33, 206, 207, 210 (250, 403, 404, 405).

✓✓ *Thomomys talpoides umbrinus*. - 30, 33, 47, 195, 212 (257, 275, 391, 392, 393).

✓✓ *Castor fiber canadensis*. - 30, 38, 39, 96, 112, 114, 129, 167, 179, 210, 225, 226 (262, 265, 323, 324, 406, 407).

Crocuta sp. -

Homo sapiens americanus. - 115 (Arizona tubes from Capt. Bouke.)

(Index II.) Vol. IV.

(Page 4.)

Colymbus dominicus, 24.

Podilymbus podiceps, 56, 152, 171, 173 (4303).

Larus argentatus smithsonianus, 152 (?).

Larus delawarensis alleni, 152, 179, 190, 192, 210 (4721, 4722, 4781).

~~*Hydrochelidon nigra surinamensis*~~

Phalacrocorax sp. ———?, 153.

Merganser americanus, 106, 112, 139, 152, 162, 170, 175, 185, 187, 207, 210, 220, 226, 227, 228 (4429, 4448, 4544, 4878, 4880).

Merganser serrator, 185, 213, 219.

Lophodytes cucullatus, 79, 95, 152, 185 (4338, 4380).

Anas boschas, 48, 66, 78, 93, 94, 95, 96, 97, 101, 103, 119, 120, 121, 151, 167, 170, 174, 175, 185, 205, 214, 223 (4317, 4318, 4319, 4320, 4323, 4334, 4335, 4368, 4376, 4377, 4381, 4382, 4398, 4399, 4400, 4481, 4488, [4489, 4490, 4884]).

~~*Anas strepera*~~

Anas americana, 24, 97, 104, 120, 149, 151, 172, 214 (4383, 4384, 4405, 4486, 4487, 4701, 4702).

Anas carolinensis, 2, 3, 12, 146, 151, 170, 203 (4198, 4199, 4200, 4581, 4582, 4583, 4584, 4585, 4586, 4779).

Anas discors, 12.

Anas cyanoptera, 18, 151, 197, 200, 202, 210 (4219, 4220, 4703, 4759, 4770, 4771, 4772, 4773, 4774, 4775, [4776, 4777, 4778]).

Spatula clypeata, 24, 49, 95, 151, 223 (4269, 4378, 4379).

Dafila acuta, 3, 103, 147, 151, 173 (4201, 4402, 4587).

(5)

Aix sponsa, 153.

Aythya americana, 24, 146, 151, 171, 172, 214 (4580, 4699).

Aythya vallisneria, 104, 119, 151, 201, 214 (4404, 4482, ⁴⁴⁸³4488, 4484, 4767).

Aythya affinis, 120 (4486):

Aythya collaris, 91, 92, 151 (4366, 4367).

Glaucionetta clangula americana, 151.

Charionetta albeola, 151, 202 (4769).

Erismatura rubida, 147, 151, 172, 202, 210 (4890, 4891, 4892, 4700, 4768).

Branta canadensis, 24, 90, 150¹⁸⁵ (4366),

Branta nigricans, 96, 103, (4403).

Olor (columbianus?), 153,

Plegadis ~~falcinellus~~, *guarauna*, 24, 26, 130, 197, 200, 210 (4226, 4227, 4228, 4494, 4758).

Tantalus loculator, 11, 15, 17, 21, 22 (4213, 4216, 4222, 4223, 4224).

Botaurus lentiginosus, 143, 197, 199, 200, 214, 222 (4755, 4756, 4757, 4851).

~~*Botaurus exilis*~~

Ardea herodias, 12, 46, 81, 150, 185, 214 (4214, 4359).

Ardea egretta 12, 15.

Ardea candidissima, 197, 199, 214 (4752).

(6)

Ardea herodias, 15, 24, 26, 213 (4225).

Nycticorax nycticorax naevius, 1, 15, 24, 193, 219, 228 (4738).

Grus mexicana. 176

Rallus virginianus. 150(?), 197, 221 (4744, 4745, 4746, 4747, 4845, 4846, 4847).

Porzana carolina. 150(?), 197, 198, 213, 221 (4748, 4749, 4849).

Sallimula galeata, 24.

Fulica americana. 148, 149, 150, 197, 199, 210, 222 (4594, 4595, 4596, 4743, 4852).

Phalaropus tricolor, 221 (4843, 4844).

Recurvirostra americana. 24, 32, 217, 220 (4229, 4230, 4231, 4232, 4233, 4234, 4829, 4839).

Gallinago delicata. 8, 24, 41, 81, 147, 149, 150, 175, 197, 198, 201, 214 (4252, 4588, 4589, 4704, 4705, 4706, 4751, 4761, 4762, 4763, 4764, 4765, 4766).

Tringa bairdii, 1, 15, 24 (4190).

Tringa minutilla. 2, 15, 204, 205 (4196, 4782, 4786).

Ereunetes occidentalis, 1 (4188, 4189, 4191, 4192, 4193).

Totanus melanoleucus. 24, 35, 63, 214 (4238, 4314).

Totanus solitarius. 197, 198 (4750).

Symphemia semipalmata. 24.

(7)

Actitis macularia, 185, 206, 223 (4794, 4866).

Numenius longirostris, 44, 197, 199, 210 (4261, 4754).

Egialitis vocifera, 47, 150, 184, 213, 220, 223, 224, 226 (4840, 4841, 4842, 4867, 4868, 4879).

Callipepla squamata, 216.

Callipepla gambeli. 3, 31, 47, 48, 53, 78, 80, 169, 197, 210, 214, 218 (4287, 4290, 4332, 4353, 4689).

Cytonyx montezumae. 42, 51, 53, 55, 76, 79, 121, 213, 216 (4264, 4270, 4325, 4343, 4491, 4492).

Meleagris gallopavo mexicana, 213, 223 (4863).

Columba fasciata, 213.

Zenaidura macroura. 47, 186, 214, 219, 222, 224.

Melopelia leucoptera, 216.

Columbigallina passerina. 216.

Scardafella inca. 24, 33, 37, 216 (4236, 4246, 4247).

Cathartes aura. 170, 228.

Circus hudsonius. 11, 15, 64, 213 (4212, 4315).

Accipiter velox. 15, 24, 36, 79, 80, 93, 176, 181, 186, 213, 214, 227 (4239, 4240, 4339, 4369, 4711, 4720).

Accipiter cooperii. 3, 15, 213, 224 (4202, 4871).

Accipiter atricapillus striatulus. 186.

Parabuteo unicinctus harrisi. 221 (4750).

Buteo borealis calurus. 13, 36, 39, 47, 64, 78, 84, 103, 148, 154, 175, 213 (4215, 4250, 4336, 4361, ~~4367~~, 4401, 4597, 4598).

Buteo abbreviatus, 213.

Buteo swainsoni. 209 (4721).

Urubitinga anthracina. 186

Aquila chrysaetos. 6, 78, 143, 177 (4337).

(8)

Haliaeetus leucocephalus. 177

Falco mexicanus. 94, ~~145~~, 214 (4371, ~~4579~~).

Falco peregrinus anatum. 1, 55, 173, 186, 204, 224 (4872).

Falco columbarius. 214

Falco sparverius. 15, 49, 74, 176, 214, (4365, 4324, 4713).

Pandion haliaetus carolinensis. 15, 143, 175.

Strix pratineola. 77, 213. (4326).

Asio wilsonianus. 90, 133, 214 (4362, 4503).

Megascops asio trichopsis. 205, 213 (4785).

Bubo virginianus subarcticus. 2, 19, 44, 47, 80, 104, 150, ¹⁸⁷~~186~~, 213, 219,
(4197, 4221, 4262, 4263, 4358, 4406, 4853).

Speotyto cunicularia hypogaea. 216.

Glaucidium gnoma. 170, 212 (4698).

Geococcyx californianus. 58, 59, 74, 213 (4313, 4323).

Coccyzus americanus. 24, 212.

Ceryle alcyon. 2, 15, 48, 81, 186, 216 (4196, 4360).

Dryobates villosus harrisi. 214.

Dryobates pubescens gairdneri. 212.

Dryobates scalaris. 39, 54, 187, 214, 220 (4294).

Sphyrapicus varius nuchalis. 24, 42, 214 (4255).

Sphyrapicus varius ruber. 214.

Sphyrapicus thyroideus. 212.

Melanerpes formicivorus bairdi. 214.

Melanerpes torquatus. 15, 214.

Melanerpes uropygialis.

Colaptes cafer. 52, 65, 74, 76, 80, 136, 156, 170, 187, 214 (4282, 4316,
4357, 4525, 4620).

Phalaenoptilus nuttalli. 24, 34, 212, 217 (4236).

- (9)
- Chordeiles texensis*. 15, 22, 207, 212.
- Cypseloides niger*. 15(?)
- Micropus melanoleucus*. 15, 24, 167, 170, 187, 192, 212, 219, 227 (4726, 4837).
- Trochilus alexandri*. 22, 170, 193, 213, 216.
- Trochilus costae*. 224
- Trochilus platycercus*
- Trochilus rufus*. 22, 216
- Tyrannus verticalis*. 14, 22, 176, 187, 212, 222, 223 (4707, 4708, 4859).
- Tyrannus vociferans*. 14, 195, 207, 228 (4738).
- Myiarchus mexicanus magister*. 212, 222 (4854, 4855).
- Myiarchus cinerascens*. 14, 193, 204, 205, 212, 219 (4792, 4834).
- Sayornis saya*. 96, 118, 130, 159, 165, 175, 181, 187, 212 (4472, 4498, 4651, 4719).
- Sayornis nigricans*. 157, 165, 180, 212 (4632, 4718).
- Contopus borealis*. 14, 212.
- Contopus richardsonii*. 14, 22.
- Empidonax difficilis*. 14, 212.
- Empidonax pusillus*. 15, 22, 212.
- Empidonax obscurus*
- Empidonax* sp. — ? 10, 192, 193, 205, 212 (4209, 4725, 4791).
- Pyrrocephalus rubinus mexicanus*. { 17, 22, 162, 176, 180, 207, 212, 223, 4864, 4865 } (4709, 4710, 4713, 4857, 4864).
- Otocorys alpestris* { *arenicola* } 40, 46, 56, 104, 105, 111, 112, 187 (4321, 4306, *chrysolaima* } 4413 to 4428, 4441, 4447).
- Cyanocitta stelleri macrolopha*. 55, 139, 169, 213.
- Aphelocoma woodhousei*. 55, 139, 213, 217 (4302).
- Aphelocoma siberii arizonae*. 213.
- Corvus corax sinuatus*. 46, 204, 213.
- Corvus americanus*. 213.
- Picicorvus columbianus*. 187, 213.
- Cyanocephalus cyanocephalus*. 22, 178, 213.

(10)

[4826, 4827, 4828].

Molothrus ater obscurus. 188, 208, 209, 210, 212, 224, 228 (4820, 4825, 11

Xanthocephalus xanthocephalus. 153, 173, 188, 193, 194, 195, 203, 204, 208, 209, 210, 212 (4735, 4740, 4741, 4742, 4780, 4819, 4822, 4823, 4824).

Agelaius phoeniceus. 8, 14, 77, 80, 93, 94, 96, 101, 117, 118, 124, 152, 175, 188, 192, 197, 201, 216, 221 (4329, 4330, 4354, 4355, 4356, 4370, 4372, 4373, 4374, 4375, 4390, 4391, 4392, 4393, 4394, 4395, 4396, 4397, 4467, 4477, 4493, 4724, 4760, 4848).

Agelaius tricolor. 153.

Sturnella magna neglecta. 43, 46, 56, 77, 110, 137, 176, 188, 192, 212, 216 (4260, 4304, 4305, 4308, 4331, 4443, 4444, 4712, 4723).

Icterus parisorum. 212, 217.

Icterus cucullatus nelsoni. 14, 188, 195, 207, 208, 212, 227 (4737, 4814, 4815, 4818).

Icterus bullocki. 14, 207, 208, 212, 219, 224, 227 (4707, 4711, 4712, 4713, 4833, 4869, 4870).

Scelopcephagus cyanocephalus. 118, 158, 164, 188, 195, 212 (4470, 4471, 4643, 4644, 4669, 4743).

Coereba vespertina. 53, 54, 55, 74, 76, 206, 207, 219 (4288, 4295, 4296, 4297, 4298, 4299, 4795, 4796, 4836).

* *Carpodacus purpureus Californicus*. 135, 136, 137, 138, 140, 141, 155, 156, 158, 174 (4435, 4507, 4510, 4613, 4514, 4515, 4516, 4533, 4542, 4543, *C. casini* { 4545, 4546, 4554, 4601, 4602, 4603, 4609, 4610, 4611, 4612, 4613, 4639, 4640, 4641, 4664, 4665, 4676, 4678, 4679, 4680).

Carpodacus casini. 110, 135, 136, 137, 138, 139, 140, 155, 156, 158, 164, 166, 167, 169, 163, 164, 165, 167, 169 (4508, 4511, 4521, 4534, 4535, 4536, 4539, 4547,

* *C. p. cal.* { 4555, 4557, 4558, 4568, 4569, 4570, 4571, 4599, 4600, 4614, 4615, 4616, 4638, 4659, 4660, 4661, 4662, 4663, 4670, 4671).

Carpodacus frontalis. 46, 52, 110, 117, 135, 136, 137, 139, 142, 155, 156, 166, 222 (4281, 4440, 4468, 4509, 4517, 4578, 4604, 4605, 4606, 4607, 4608, 4674, 4675).

Loxia curvirostra stricklandi. 214.

Leucosticte australis.

Spinus tristis. 79, 136, 137, 141, 142, 174, 188, 193 (4342, 4344, 4345, 4346, 4347, 4348, 4518, 4519, 4559, 4576, 4577).

Spinus paltra. 8, 9, 46, 79, 104, 136, 137, 222, 223 (4349, 4350, 4351, 4352, 4409, 4520, 4868).

Spinus pinus. 136, 137, 138, 139, 141, 157, 164, 165, 169, 173, 214 (4512, 4532, 4540, 4556, 4560, 4575, 4634, 4636, 4637, 4666, 4667).

(11) *Calcaris ornatus*. 24.

Rhynchophanes m.coweni. 90, 96, 104, 105, 112 (4364, 4410, 4411, 4412, 4442).

Poocetes grammicus confinis. 14, 138, 139, 157, 160, 166, 169, 170, 188
(4628, 4653, 4673, 4686, 4687, 4690).

Ammodramus sandwicensis alaudinus. 14, 140, 188, 205-
(4787, 4788).

Ammodramus savannarum perallidus.

Chondestes grammacus strigatus. 138, 188, 226 $\frac{1}{2}$, 227 (4877).

Zonotrichia leucophrys. 110(?), 188 (4437).

Zonotrichia intermedia. 19, 36, 37, 46, 48, 56, 57, 110(?), 112, 157, 166, 176
188 (4243, 4244, 4310, 4311, 4312, 4437(?), 4446, 4622, 4630, 4631, 4682).

Spizella socialis. 3, 4.

Spizella socialis arizonae. 3, 14, 189.

Spizella breweri. 14, 189, 207 (4801, 4802).

Junco sp. ———? 46, 110 (4436).

Junco hyemalis oregonus. 24, 46(?), 53, 135, 137, 139, 141, 157, 158, 169, 173,
179, 189, 204 (4283, 4284, 4285, 4286, 4506, 4541, 4567, 4624, 4642).

Junco cinereus dorsalis. 24, 35, 137, 138, 139, 140, 141, 169 (4237, 4529, 4530,
4531, 4550, 4552, 4553, 4562, 4563, 4564, 4565, 4566).

Amphispiza bilineata. 14, 22, 170, 173, 189.

Amphispiza belli nevadensis. 24, 31, 46, 48, 56, 157, 166 (4307, 4623, 4681).

Poocaea ruficap boucardi. 18, 46, 53 (4218, 4289).

Melospiza fasciata { *fallax*
 montana. 46, 52, 77, 130, 140, 173, 223 (4280, 4327,
4496, 4548, 4865).

Melospiza lincolni. 22, 49, 140, 150, 164, 167 (4549).

Pipilo maculatus megalonyx. 70, 108, 136, 138, 169, 170 (4432,
4524, 4691).

(12)

Pipilo chlorurus. 14.

Pipilo fuscus mesoleucus. 53, 70, 110, 138, 139, 140, 179, 217 (4292, 4438, 4439, 4551).

Pipilo aberti. 36, 46, 117, 118, 157, 189, 228 (4466, 4473, 4629).

Cardinalis cardinalis superbus. 31, 48, 90, 97, 130, 216 (4363, 4385, 4495).

Habia melanocephala 14.

Guraca caerulea 14, 22, 222 (4856).

Passerina amoena. 14.

Calamospiza melanocorys. 22, 189.

Piranga ludoviciana. 11, 14, ²¹² 219 (4210, 4836).

Piranga hepatica 212.

Piranga rubra cooperi. 212.

Progne subis

Petrochelidon lunifrons 13, 22, 167, 206, 207, 212, 220 (4797, 4798, 4799, 4800, 4803, 4804, 4805, 4806).

Chelidon erythrogastra. 13, 22, 212.

Tachycineta sp. — ? 163, 164.

Tachycineta thalassina. 11, 13, 22, 163(?), 163, 189, 205, 208, 212, 219 (4211, 4783, 4816, 4817, 4832).

Stelgidopteryx serripennis. 14, 153, 162, 166, 189, 205, 212, 224 (4793, 4873).

Phainopepla nitens. ~~13~~ 2, 11, 13, 223, 227 (4861, 4862).

Lanius ludovicianus excubitorides. 39, 46, 48, 175, 189, 211 (4249).

(13) *Vireo gilvus*, 212

Vireo gilvus. 212.

Vireo solitarius. 212

Vireo solitarius plumbeus. 212

Vireo belli. 10, 13, ²¹²(4208).

Vireo belli pusillus. 13, 189, 212, 224, 228.

Vireo vicinior. 212.

Helminthophaga luciae. 167, 169, 170, 173, 189, 193, 205, 211, 226, 228
(4684, 4693, 4731, 4789, 4875).

Helminthophaga virginiae. 211.

Helminthophaga celata lutescens. 13, 22, 211.

Dendroica aestiva. 10, 13, 22, 169, 173, 189, 193, 211, 219, 228 (4204,
4685, 4727, 4728, 4729, 4830, 4831.

Dendroica coronata. 141 (!) (4574 ?).

Dendroica auduboni. 22, 37, 40, 46, 137, 156, 180, 189, 193, 211 (4245,
4322, 4617, 4618, 4715, 4716, 4717, 4730).

Dendroica nigrescens. 22, 180, 211 (4714).

Dendroica palmarum

Seiurus noveboracensis notabilis.

Geothlypis ^{macgillivrayi} ~~philadelphia~~. 2, 10, 13, 22, 190, 211 (4194, 4205, 4206).

Geothlypis trichas occidentalis. 10, 22, 137, 138, 190, 205, 211 (4207,
4790).

Icteria virens longicauda. 13, 22, 193, 211, 222, 223, 226 (4860,
4876).

Sylvania pusilla pileolata. 10, 13, 22, 211 (4203).

Anthus pensilvanicus. 24, 35, 190, 211.

(14)

Cinclus mexicanus. 211.

Oroscoptes montanus. 42, 46, 74, 76, 159, 166, 211⁴²⁵⁶ (4257, 4652, 4672).

Mimus polyglottos. 13, 74, 158, 168, 173, 175, 179, 194, 211, 217, 218, 219, 228 (4733, 4734).

Harporhynchus curvirostris palmeri. 210.

Harporhynchus bendirei. 211.

Harporhynchus leontei. 211.

Harporhynchus erissalis. 46, 52, 56, 96, 130, 131, 132, 156, 158, 168, 173, 190, 210 (4279, 4309, 4499, 4502, 4683).

Campylorhynchus brunncapillus. 211

Salpinctes obsoletus. 173, 211.

Geothlypis mexicana conspersus. 145, 173, 211.

Thryothorus bewickii bairdi. 22, 43, 53, 132, 156, 211 (4259, 4291, 4501, 4621).

Troglodytes aedon taylori. 22.

Cistothorus palustris. 8, 22, 24, 42, 46, 52, 150, 173, 211 (4253, 4277).

Certhia familiaris (mexicana?). 134 (4504).

Sitta carolinensis aculeata. 46, 55, 98, 110, 211 (4388, 4434).

Sitta pygmaea. 211.

Parus inornatus griseus. 76, 211.

Parus wollweberi. 8, 24, 42, 46, 48, 51, 52, 70, 98, 108, 136, 170 (4254, 4272, 4278, 4389, 4431, 4526, 4694, 4695, 4696, 4697).

Parus gambeli. 8, 51, 55, 108, 211 (4273, 4274, 4275, 4430).

Psaltriparus plumbeus. 135 (4505).

Auriparus flaviceps. 158, 159, 169, 173, 190, 211 (4649, 4650, 4688).

Regulus calendula. 22, 46, 52, 76, 141, 156, 167, 170, 190, 193, 194, 210 (4276, 4561, 4619, 4692, 4732, 4736).

(15)
Polióptila caerulea.

Polióptila plumbea. 211.

Mniadestes townsendii 22, 41, 70, 74, 76, 79, 109, 190, 193, 195, 211
(4256, 4340, 4341, 4433, 4739).

Turdus fuscescens salicicolus. 4, 5.

Turdus ustulatus. 4, 5, 193 (4052).

Turdus aonalaschkae. 4, 8, 43, 46, 49, 51, 54, 55, 55, 70, ~~77~~, 77, 97,
112, 130, 138, 157, ¹⁶³167, 210 (3701, 4258, 4266, 4267, 4271, 4293,
4301, 4328, 4387, 4445, 4497, 4528, 4625, 4633, 4658).

Turdus aonalaschkae auduboni. 4 (3375).

Merula migratoria propinqua. 8, 9, 22, 46, 47, 55, 74, 104, 117, 118,
119, 122, 136, 157, 158, 160, 163, 164, 190, 210 (4407, 4408, 4462, 4463,
4464, 4465, 4469, 4478, 4479, 4480, 4500, 4527, 4528, 4627, 4628, 4645, 4646,
4647, 4648, 4654, 4655, 4655, 4657, 4668).

Sialia mexicana. 22, 70, 74, 118, 211 (4474, 4475).

Sialia arctica. 22, 54, 97, 116, 117, 118, 138, 141, 190, 211 (4300,
4386, 4449, 4450, 4451, 4452, 4453, 4454, 4455, 4456,
4457, 4458, 4459, 4460, 4461, 4476, 4537, 4538, 4572, 4573).

Oölogy. - 216, 222, 224.

Herpetology. - 16, 216 (Testudinata. - 164, 172).

Ichthyology. - 153, 213, 216.

Entomology. 70 (parasites in deer), 71.

Conchology. - 153, 214.

Botany. - 70, 133, 134, 142, 144, 149, 213, 216, 218, 227.

Archaeology & Ethnology. - 48, 115.

Fort Verde, Location, etc. - Cover (inside)

~~Weight ✓~~
~~Total length ✓~~
~~Head & body ✓~~
~~Tail vert. ✓~~
~~hairs ✓~~
~~Distance bet. eyes ✓~~
~~Length of upper incisor fr. gums ✓~~
~~" " lower " ✓~~
~~Chest girth ✓~~
~~Forelimb whiskers ✓~~
~~Distance of eye ✓~~
~~Ear & ear meatus ✓~~
~~meatus ✓~~
~~notch ✓~~
~~width ✓~~
 Ears, height of hairs above, ✓
 Nose to: ✓ front teeth ✓
 ✓ angle of mouth ✓
 ✓ eye ✓
 ✓ centre pupil ✓
 ✓ ear ✓
 ✓ meatus auditorius externus ✓
 ✓ tip of ear ✓
 ✓ occiput ✓
 ✓ End hind leg ✓
 ✓ Root of tail ✓
 ✓ Exp. of outstretched fore limbs ✓ to inf. of caudal hair on peduncle ✓

Neck girth ✓
 Chest girth ✓
 Belly " ✓
 Fore " ✓

From anus to hind ear (below)
 Tail, length of bare portion ✓
 " " from anus ✓
 " " greatest width ✓
 Width of each upper incisor at apex ✓
 " " both incisors together " ✓
 " " " " " bases ✓
 Same of lower incisors ✓

Fore limb: ✓ coracoid ✓
 ✓ olecranon ✓
 ✓ length fore-arm ✓
 ✓ length manus ✓
 ✓ width " ✓
 ✓ l. cl. ✓ 1, 2, 3, 4, 5 ✓

Hind limb: ✓ great trochanter ✓
 ✓ knee ✓
 ✓ length of leg (from knee to hock) ✓
 ✓ Pes length ✓
 ✓ width ✓
 ✓ l. cl. ✓ 1, 2, 3, 4, 5 ✓
 Exp. of head ✓

arm 90 ✓
 Fore-arm from joint 100 ✓
 " " elbow 118 ✓

Length of skin ✓
 Width of skin ✓

169
175

Total length	26 inches	=	660
Head + body	11 "	=	280
Nose to eye	1 $\frac{1}{4}$ "	=	32
Ear	2 "	=	50
meatus	2 $\frac{1}{4}$ "	=	56
tip of ear	3	=	75
occiput	2 $\frac{5}{8}$	=	66
Tail vert.	11 $\frac{3}{4}$	=	298
hairs	15 $\frac{3}{8}$	=	390
Mamms.	2	=	50
Pes	2 $\frac{5}{8}$	=	66
Fore leg	4 $\frac{7}{8}$	=	123
Hind leg	5 $\frac{1}{4}$	=	133
Ear above crown	$\frac{1}{2}$	=	13
meatus	1 $\frac{1}{2}$	=	38
Bet. eye	1 $\frac{1}{2}$	=	38
Chest girth	8.	=	200 202

✓ <i>Homo sapiens</i>	214
✓ <i>Mus musculus</i>	35, 213,
✓ <i>Hesperomys leucogaster torridus</i>	30, 192 (387), 210,
✓ <i>Lepus sylvaticus nuttalli</i>	30
✓ yellow-haired porcupine	179,
✓ " " arizonae	30, 31, 46, 159 (338), 161 (341), 162 (344, 347, 348), 165 (352), 197, 210,
✓ <i>Lepus texianus</i>	31, 46, 133 (331, 332), 134 (333), 145 (334), 160 (350 to 354), 174 (369), 210
✓ <i>Peromyscus leucopus</i>	30, 210,
✓ " " mexicanus	30
✓ <i>Dipodomys ordii</i>	33 (250), 206 (403, 404), 207 (406), 210,
✓ <i>Neotoma floridana mexicana</i>	34 (254), 52 (279), 64, 95 (306), 210,
✓ <i>Thomomys talpini</i>	37 (260), 178, 210
✓ <i>Antilocapra americana</i>	49 (276), 177, 181 (379 to 382), 182 (383), 210, 88 (297), 129 (314), 315, 316, 130 (328), 143, 177, 184 (384 to 386), 210,
✓ <i>Canis macrotis mordax</i>	50 (277, 278), 57 (282), 58, 59 (282), 60 (283, 284, 285), 63 (283, 284), 64, 66 (288), 70, 71, 72, 76, 81 (293),
✓ <i>Procyon hernandezii</i>	57, 126 (312), 171 (368), 70, 130 (329), 178, 216,
✓ <i>Martes americana</i>	129 (317, 318),
✓ <i>Ulis domesticus</i>	129 (319), 129 (325), 130 (326, 327), 178, 210,
✓ <i>Uulpes civero-argulatus</i>	160 (359, 360), 178, 213,
✓ <i>Reynomys columbianus</i>	160 (359, 360), 178, 213,
✓ <i>Lepus callosus</i>	160 (361?).
✓ <i>Testudinata</i>	164, 172,
✓ <i>Coelogy</i>	216, 222, 224,
✓ <i>Delephology</i>	153, 213, 216,
✓ <i>Iconology</i>	153, 214.
✓ <i>Botany</i>	70, 133, 134, 142, 144, 149, 213, 216, 218, 227,
✓ <i>Entomology</i>	70 (parasites on deer), 71,
✓ <i>Archaeology or Ethnology</i>	48, 115
✓ <i>Herpetology</i>	16 (20, "2382"). 216,

<i>Gutera canadensis</i>	179, 225,
<i>Monticola</i> <i>Geop</i>	6, 145,
<i>V. sato</i> (all species)	16 (230), 45, 213,
<i>Amphispiza</i> <i>maferites</i>	17 (259), 19, 27, 28, 30, 33 (252), 38 (263), 45, 89 (301, 302, 303), 143, 210
<i>Amphispiza</i> <i>nuptialis</i>	28, 35 (256), ³⁵ 257, 258, 39 (267), 40 (268), 45, 143, 179, 210,
<i>Amphispiza</i> <i>interrupta</i>	30, 43 (273), 50 (291), 88 (298, 299), 89 (300), 129 (320, 321), 143, 145, 154 (336), 196 (396), 210,
<i>Tyrannus</i> <i>verticalis</i> <i>horreus</i>	17 (230), 29 (240), 30, 55 (280)
<i>Tyrannus</i> <i>verticalis</i>	²¹³ 27 (235), 31, 45, 64, 65 (287), 118 (308), 159 (337), 161 (339, 340), 342, 343, 344, 162 (345), 180 (372), 193, 210,
<i>Falco</i> <i>zebrae</i>	15 (241), 197, 210, 226 (408),
<i>Buteo</i> <i>lineatus</i> <i>canadensis</i>	30, 38 (262), 39 (265), 96, 112, 114, 129 (323, 324), 167, 179, 210, 226 (406), 226 (407)
<i>Geothlypis</i> <i>trichas</i>	20 (242, 243), 30, 34 (253), 210,
<i>Hesperomys</i> <i>leucopus</i> <i>oreocetes</i>	89 (305), 196 (401), 210,
<i>Hesperomys</i> <i>leucopus</i> <i>oreocetes</i>	27 (244, 245), 28, 29 (244, 245, 247, 248), 30, 34 (255), 37 (261), 39 (266), 40 (269), 42 (271, 272), 45 (274), 71, 81,
<i>Hesperomys</i> <i>leucopus</i> <i>sonoriensis</i>	36 (253), 38 (264), 71,
<i>Peromyscus</i> <i>latrans</i>	30, 45, 177, 181 (378), 216,
<i>Peromyscus</i> <i>sonoriensis</i>	⁷¹ 160 (355, 356, 357), 171 (363, 364, 365), 196 (394, 395), 210,
<i>Peromyscus</i> <i>maculatus</i>	30, 57 (281), 98 (307), 102, 125 (311), 128 (313), 143, 154 (335), 160 (349), 358,
<i>Peromyscus</i> <i>canadensis</i>	
<i>Peromyscus</i> <i>concolor</i>	30, 61 (286), 65, 67, 68 (289), 70, 71 (290), 74, 102, 113, 124 (309, 310), 177, 181 (373 to 377), 210,
<i>Peromyscus</i> <i>calurus</i>	30, 84 (294), 85 (295, 296), 89 (304), 129 (322), 143, 144, 210,
<i>Peromyscus</i> <i>hudsonius</i> <i>fremonti</i>	30, 213,
<i>Peromyscus</i> <i>asiaticus</i> <i>quadrimaculatus</i>	30, 178,
<i>Peromyscus</i> <i>aberti</i>	30, 178, 210, 213,
<i>Spermophilus</i> <i>gramurus</i>	30, 46, 131 (330), 134, 171 (363, 367), 174 (370, 371), 193, 194 (390), 196 (397 to 400), 197, 204, 210, 213,
<i>Spermophilus</i> <i>tetricaudus</i>	30, 210,
<i>Thomomys</i> <i>talpoides</i> <i>nubris</i>	30, 33 (251), 47 (275), 195 (391, 392, 393), 212,
<i>Mus</i> <i>decumanus</i>	30 (270),

<i>Harporhynchus fenderii</i>	2/10,
<i>Harporhynchus palmeri</i>	2/11,
<i>Harporhynchus lecontei</i>	2/11,
<i>Harporhynchus lecontei</i>	2/11,
<i>Tringoides pusilliss occidentalis</i>	Pop 1 (4188, 40, 4191, 41, 4193)
<i>Tringa bairdi</i>	1 (4190), 15, 24,
<i>Nyctanassa grisea nortoni</i>	1, 15, 24, 193, 219 (4738), 228
<i>Actitis perigrina</i>	1, 55, 173, 186, 204, 224 (4772),
<i>Actitis macularia</i>	3 (4194), 10 (4205), 4206, 13 22, 190, 211,
<i>Actitis aleyron</i>	2 (4195), 15, 48, 81 (4360), 186, 216,
<i>Actitis macularia</i>	2 (4197), 19 (4211), 44 (4262), 47 (4263), 80 (4358) ¹⁰⁴ (4406), 150, 186, 213, 219 (4753)
<i>Actitis macularia</i>	2 (4190), 15, 204 (4782), 205 (4786),
<i>Actitis carolinensis</i>	2 (4198), 4199, 3 (4200), 12, 146 (4581, 4582, 4583, 4584, 4585, 4586), 170, 203 (4779),
<i>Actitis aleyron</i>	3 (4201) 103 (4402), 147 (4587), 151, 173,
<i>Accipiter cooperii</i>	3 (4202), 15, 218, 224 (4771),
<i>Cathartes aura gambeli</i>	3, 31, 47, 48, 53 (4287), 3 (4290), 78 (4332), 78, 80 (4353), 169 (4689), 197, 210, 214, 218,
<i>Spizella monticola</i>	3, 4,
<i>Spizella monticola arizonae</i>	3, 14, 189,
<i>Aythya americana</i>	4, 5,
<i>Actitis macularia auduboni</i>	4 (3375)
<i>Actitis macularia</i>	4 (4062), 5, 193,
<i>Actitis macularia</i>	136 (4497), 138 (4528), 157 (4625), 4633, 163 (4658), 1167, 210,
<i>Actitis macularia</i>	4 (3701), 8, 43 (4258), 46, 49 (4267), 57 (4271), 54 (4293), 55, 70, 77 (4358), 97 (4387), 112 (4445),
<i>Aquila chrysaetos canadensis</i>	6, 78 (4337), 143, 177,
<i>Passerculus sandwichensis</i>	14, 149, 188, 205 (4787, 4788),
Passerculus sandwichensis	136 (4522, 4523), 157 (4627, 4628), 158 (4645 to 4648), 160 (4654 to 4656), 163 (4657), 164 (4668), 190, 210,
<i>Passerculus sandwichensis</i>	1, 7, 22, 46, 47, 74, 104 (4407, 4408), 117 (4462 to 4465), 4469, 118 (4478), 119 (4479, 4480), 132 (4500),
<i>Passerculus sandwichensis</i>	8, 24, 42 (4254), 46, 48, 51 (4273), 52 (4278), 70, 98 (4389), 108 (4431), 136 (4526), 170 (4694 to 4697),
<i>Tarus montanus</i>	8, 51 (4273, 4274, 4275), 55, 108 (4430), 211,

<i>Helminthophaga media</i> Wilsonia	8, 24, 41(42-2), 81, 147(4588, 4589), 149, 150, 175(4704, 4705, 4706), 197, 198(4751), 201(4761 to 4766), 214
<i>Helmalodytes palustris fulvicollis</i>	8, 22, 24, 42(4255), 46, 52(4255), 150, 173, 211, 4394, 4395, 4396, 4397, 117(4467), 118(4477), 124(4493), 152, 175, 188, 192(4724), 197, 201(4760), 216, 4771 221(4748),
<i>Agelaius phoeniceus</i>	8, 14, 22(4322, 4333), 80(4354, 4355, 4356), 93(4370), 94(4372, 4373, 4374, 4375), 96, 101(4390, 4391, 4392, 4393,
<i>Asiragalinus pallidus</i>	8, 9, 46, 79(4349, 4350, 4351, 4352), 104(4409), 136(4520), 137, 222, 223(4758),
<i>Caprimulgus vociferans</i>	186,
<i>Wilsonia pusilla fulvicollis</i>	10(4203), 13, 22, 211,
<i>Dendroica aestiva</i>	10(4204), 13, 22, 169(4685), 173, 189, 193(4727 to 4729), 211, 219(4730, 4731), 228,
<i>Geothlypis trichas occidentalis</i>	10(4207), 22, 137, 138, 190, 205(4790), 211,
<i>Vireo belli?</i>	10(4208), 13,
<i>Bombardier</i> — sp.	11(4209), 192(4725), 193, 205(4791), 212,
<i>Piranga ludoviciana</i>	11(4210), 14, 219(4736),
<i>Tachycineta thalassina</i>	11(4211), 13, 22, 163, 163, 189, 205(4783), 208(4716, 4717), 212, 219(4732),
<i>Circus hudsonius</i>	11(4212), 15, 213,
<i>Tantalus ulator</i>	11(4213), 15, 17, 21(4222), 21(4223, 4224), 22,
<i>Podiceps cornutus</i>	12, 15,
<i>Ardea herodias</i>	12(4214), 46, 81(4359), 150, 185, 214,
<i>Tringa discors (shufeldti)</i>	12,
<i>Actitis macularia</i>	13(4215), 36, 39(4255), 47, 64, 78(4336), 84(8361), 103(4401), 148(4597), 154(4598), 175, 213,
<i>Mareca polyglottus</i>	13, 14, 158, 168, 173, 175, 179, 194(4733, 4734), 211, 217, 218, 219, 228,
<i>Phalaropus nitens</i>	13
<i>Helminthophaga edata fulvicollis</i>	13, 22, 211
<i>Tringa discors (shufeldti)</i>	13, 22, 193, 211, 222, 223(4760), 226(4776),
<i>Tringa discors (shufeldti)</i>	13, 189,
<i>Tringa discors (shufeldti)</i>	13, 167, 206(4797), 207(4798 to 4700), 4702 to 4706, 212, 220,

Merula erythrogastra	13, 22, 212	
Vireo gilvus	14, 153, 162, 166, 189, 205 (4798), 212, 224 (4773)	
Buteo swainsoni	209 (4721)	
Vireo gramineus swainsoni	14, 138, 139, 157 (4628), 160 (4653), 166 (4673), 169 (4686, 4687), 170 (4690), 188	
Vireo gilvus breweri	14, 189, 207 (4701, 4702)	
Vireo gilvus	14, 22	
Vireo gilvus swainsoni	14	
Vireo melodia melanocephalus	14	
Vireo swainsoni	14, 22, 222 (4836)	
Vireo swainsoni	14	
Vireo bullocki	14, 207, 207 (again below), 208 (4707, 4711, 4712, 4713), 212, 219 (4733), 224 (4769, 4770), 227	
Vireo maculatus nelsoni	14, 188, 195 (4737), 207, 208 (4714, 4715, 4718), 212, 227	
Vireo gilvus swainsoni	212, 217	
Tyrannus vociferans	14, 195 (4738), 207, 228	
Vireo gilvus swainsoni	14, 22, 176 (4707, 4708), 187, 212, 222, 223 (4759)	
Vireo gilvus swainsoni	14, 193, 204, 205 (4792), 212, 219 (4734)	
Vireo gilvus swainsoni	212, 222 (4754, 4755)	
Vireo gilvus swainsoni	14, 212	
Vireo gilvus swainsoni	14, 22	
Vireo gilvus swainsoni	14, 212	
Vireo gilvus swainsoni	15, 22, 212	
Vireo gilvus swainsoni	15, 24, 167, 170, 187, 192 (4726), 212, 219 (4737), 227	
Vireo gilvus swainsoni	15	
Vireo gilvus swainsoni	15, 22, 207, 212	
Vireo gilvus swainsoni	15, 214	
Vireo gilvus swainsoni	15, 143, 175	

<i>Alcedo mexicanus</i>	211,
<i>Amniscus sharpii</i>	15, 49(4265), 74(4324), 176(4713), 214,
<i>Amniscus macularia</i>	185 , 206(4794), 223(4866)
<i>Accipiter fuscus</i>	15, 24, 36(4237), 43(4300), 79(4339), 80(4339), 93(4369), 176(4711), 181(4720), 186, 213, 214, 227,
<i>Buteo lineatus</i>	15-
<i>Buteo swainsoni</i>	15, 24, 25(4225), 213,
<i>Circus hudsonius</i>	17, 22, 162, 176(4709, 4710), 180(4713), 207, 212, 223(4757, 4764),
<i>Circus cyaneus</i>	18(4218), 46, 53(4289),
<i>Accipiter cyanoptera</i>	15(4219, 4220), 157, 174(4703), 197, 200(4759), 202(4770 to 4778), 210,
<i>Accipiter cooperii</i>	19, 36(4243), 37(4244), 45, 48, 56(4310), 57(4311, 4312), 110(4437), 112(4446), 157(4622, ⁴⁶³⁰ 4631), 166(4682), 176, 188,
<i>Accipiter cooperii</i>	22, ²¹¹ 34(4300), 97(4386), 116(4449 to 4457), 117(4458-4461), 118(4476), 138(4537, 4538), 141(4572, 4573), 190,
<i>Accipiter cooperii</i>	22, 30, 74, 118(4474, 4475), 211,
<i>Accipiter cooperii</i>	22, 31(4251), 70, 74, 76, 79(4340, 4341), 109(4433), 190, 193, 195(4739), 211,
<i>Accipiter cooperii</i>	22, 46, 52(4276), 76, 141(4561), 156(4619), 167, 170(4692), 190, 193(4732), 194(4736), 210,
<i>Accipiter cooperii</i>	22, 43(4259), 53(4271), 132(4501), 156(4621), 211,
<i>Accipiter cooperii</i>	22
<i>Accipiter cooperii</i>	22, 37(4245), 40(4248), 46, 137, 156(4617, ⁴⁶¹⁸), 180(4715, 4716, 4717), 189, 193(4730), 211,
<i>Accipiter cooperii</i>	22, 180(4714), 211,
<i>Accipiter cooperii</i>	22, 49, 140(4549), 150, 164, 167,
<i>Accipiter cooperii</i>	4, 5-2(4280), 77(4327), 130(4496), 140(4548), 173, 223(4785),
<i>Accipiter cooperii</i>	22, 189,
<i>Accipiter cooperii</i>	22, 178, 213,
<i>Accipiter cooperii</i>	22, 170, 193, 213, 216,
<i>Accipiter cooperii</i>	22, 216,
<i>Accipiter cooperii</i>	24, 31(4251), 70, 74, 76, 79(4340, 4341), 109(4433), 190, 193, 195(4739), 211,

<i>Amphispiza belli nevadensis</i>	24, 31, 40, 48, 50 (307), 157 (4623), 166 (4681),
<i>Spatula clypeata</i>	24, 49 (4269), 95 (4378, 4379), 151, 223,
<i>Recurvirostra americana</i>	24, ^(Nov. 22) 32, 217 (4829), 220 (4839),
<i>Scardafella inca</i>	24, 33 (4235), 37 (4240, 4241), 216,
<i>Marca americana</i>	24, 97 (4383, 4384), 104 (4405), 120 (4486, 4487), 149, 151, 172 (4701, 4702) 214,
<i>Actitis ludoviciana</i>	24, 35, 190, 211,
<i>Quercus dorsalis</i>	24, 35 (4237), 137, 138 (4529 to 4531), 139, 140 (4550, 4552, 4553), 141 (4562 to 4566), 169,
<i>Podiceps dominicus</i>	24
<i>Gallinula floridana</i>	24
<i>Totanus melanoleucus</i>	24, 35 (4238), 63 (4314), 214
<i>Fuligula ferruginea americana</i>	24, 146 (4580), 151, 171, 172 (4699), 214,
<i>Sphyrapicus varius nuchalis</i>	24, 42 (4255), 214,
<i>Sphyrapicus varius ruber</i>	214
<i>Colaptes auratus</i>	24, 212,
<i>Bonasa canadensis</i>	24, 90 (4365), 150, 185,
<i>Quercus oregonus</i>	189, 204, 24, 46, 53 (4283, 4284, 4285, 4286), 135 (4506), 137, 139 (4541), 139, 141 (4567), 157 (4600), 158 (4642), 169, 173, 179,
<i>Phalaenoptilus nuttalli</i>	24, 34 (4236), 212, 217,
<i>Sturnella ornata</i>	24
<i>Actitis semipalmata</i>	24
<i>Cardinalis cardinalis superbus</i>	31, 48, 90 (4363), 97 (4385), 130 (4495), 216,
<i>Spizella monticola</i>	36, 40, 117 (4466), 118 (4473), 157 (4629), 189, 228,
<i>Passer solaris</i>	39, 54 (4274), 187, 214, 220,
<i>Passer hirsutus nevadensis</i>	39 (4249), 46, 48, 175, 189, 211,
<i>Spizella monticola</i>	40 (4321), 46, 50 (4300), 104, 105 (4417 to 4428), 111 (4441), 112 (4447), 187,
<i>Spizella monticola</i>	42 (4257), 46, 74, 76, 159 (4652), 166 (4672), 211
<i>Spizella monticola</i>	42 (4260), 46, 50 (4300), 104, 105 (4417 to 4428), 111 (4441), 112 (4447), 187,
<i>Spizella monticola</i>	44 (4261), 197, 199 (4754), 210,

<i>Harporhynchus crassalis</i>	46, 5-2(4279), 50(4307), 96, 130, 131(4499), 132(4502), 156, 158, 168(4683), 173, 190, 210
<i>Bitta carolinensis aculeata</i>	46, 5-5-98(4388), 110(4434), 211, 166(4674, 4675), 222,
<i>Amphispiza bilineata</i>	46, 5-2(4281), 110(4440), 117(4468), 135(4509), 136(4517), 137, 139, 142(4578), 155(4604, 4607), 156(4608)
<i>Junco sp. — ?</i>	46, 110(4430),
<i>Agelaius phoeniceus</i>	204, 213,
<i>Spizella carolinensis</i>	47, 186, 214, 219, 222, 224,
<i>Oxyechus vociferus</i>	47, 150, 186, 213, 220(4740, 4741, 4742), 223(4767), 224(4768), 226(4779),
<i>Cyrtonyx massena</i>	42(4264), 51(4270), 53, 55-76(4325), 79(4343), 121(4491), 121(4492), 213, 216, 103(4399, 4400), 119(4481), 120(4488), 121(4489, 4490), 131, 167, 170, 174, 175-185, 205(4784), 214, 223,
<i>Anas boschas</i>	58, 66(4317, 4318, 4319, 4320), 78(4338, 4334, 4335), 93(4368), 94(4376), 95(4377), 96, 97(4381, 4382), 101(4398), 214
<i>Colaptes auratus mexicanus</i>	5-2(4282), 65(4316), 74, 76, 80(4357), 136(4525), 150(4620), 170, 187, 214
<i>Streptopelia vespertina</i>	5-3(4288), 5-4(4295, 4296, 4297, 4298, 4299), 5-5-74, 76, 206(4796, 4796), 207, 219(4735),
<i>Spizella socialis</i>	5-3(4292), 70, 110(4438, 4439), 138, 139, 140(4551), 179, 217,
<i>Spizella socialis</i>	5-5(4302), 139, 213, 217,
<i>Spizella socialis</i>	5-5, 139, 169, 213,
<i>Spizella socialis</i>	5-5(4303), 152, 171, 173
<i>Spizella socialis</i>	5-8, 5-9(4313), 74(4323), 213,
<i>Vireo maculatus mycalus</i>	70, 108(4432), 136(4524), 138, 169, 170(4691),
<i>Pipilo maculatus mycalus</i>	76, 211,
<i>Spizella socialis</i>	77, 213,
<i>Lophodytes cucullatus</i>	79(4338), 95(4380), 152, 185,
<i>Astragalinus tristis</i>	79(4342, 4344, 4345, 4346, 4347, 4348), 130(4518, 4519, 4520), 137, 141(4559), 142(4576, 4577), 174, 188, 193,
<i>Asio americanus</i>	90(4362), 133(4503), 214,
<i>Plectrophanes macrourus</i>	90(4364), 96, 104, 105(4410, 4411, 4412), 112(4442),
<i>Spizella socialis</i>	91(4366), 92(4367), 151,
<i>Aeronautes mexicanus polygynus</i>	94(4371), 145(4579), 214,
<i>Sayornis sayi</i>	96, 118(4472), 130(4498), 159(4651), 165, 175, 181(4719), 187, 212,

Rocky Mountain District,
Dr. EDGAR A. MERRINS, Supt.

American Ornithologists Union.

Committee on Migration.

Dr. C. HART MERRIAM, Chairman.

1888

- ~~*Picus villosus harrisi* 214,
Melanerpes formicivorus bairdi 214,
Falco columbarius 214,
Loxia 214,
Ground Dove 216,
Callipepla squamata 216,
Melospiza leucoptera, 216.
Burrowing Owl, 216,
Steganopus wilsoni, 221 (4743, 4744),
Parabuteo unicincta harrisi, 221 (4750),
Hedymeles costae, 224,~~

Phainopepla nitens 211, 223(4761, 4762), 227

Polioptila melanura, 211,

Campylorhynchus 211,

Sitta pygmaea, 211

Helminthophaga virginiana 211,

Vireo solitarius, 212,

✓ " *belli*, 212

✓ " *pusillus*, 212, 224, 228,

✓ " *vicinior* 212

✓ " *gairnsi* 212

✓ " *bergii*, 212

✓ " *plumbeus*, 212

Pyrranga cooperi 212

✓ " *hepatica* 212,

Sphyrapicus thyroideus, 212,

Dryobates pubescens gairdneri 212

Buteo abbreviatus, 213,

~~*Troglodytes aedon*, 213, 214~~

Columba fasciata 213,

Wild Turkey 213, 223(4763),

Scorvus americanus 213,

Ardecoana sieberi arizonae, 213.

- Mercurus serrator*, 185, 213, 219,
Bemisia nigrans 96, 103 (4403),
Aythya valisineria 104 (4404), 119 (4482, 4483, 4484), 151, 201 (4757), 214,
Mercurus verganus americana 106 (4429), 112 (4448), 139 (4544), 152, 162, 170, 175, 185, 187, 204,
Leptodactylus Cassini 110 (4435), 135 (4507, 4510), 136 (4513 to 4516), 137, 138 (4533), 139
 (4542, 4543), 140 (4545, 4546, 4554), 155 (4601, 4602, 4603), 156 (4609, 4613), 158 (4639 to 4641), 164 (4664, 4665),
Zonotrichia leucophrys 110 (?) (4437), 188,
Geococcyx cyaniceps 118 (4470, 4471), 158 (4643, 4644), 164 (4669), 188, 195 (4743), 213,
Anolis affinis, 120 (4485),
Leontideus familiaris, 134 (4504),
Psathipalus plumbeus 135 (4505),
Leptodactylus purpureus californicus 135 (4508), 136 (4511, 4521), 137, 138 (4534 to 4536),
Spinus pinus 131 (4512), 137, 138 (4532), 139 (4540), 141 (4556, 4560, 4575), 157 (4634, 4637),
Chondestes grammacus strigatus 138, 188, 226 (4777), 227,
Leptodactylus purpureus californicus 140 (4547, 4555, ~~4556~~, 4562, 4568), 141 (4568 to 4571) ^{on} page
Dendroica coronata 141 (4574),
Botaurus lentiginosus 143, 197, 199 (4754, 4755), 200 (4756, 4757), 214, 222 (4751),
Leptarctus mexicanus condensus 145, 151, 173, 211, 4768
Erematoma rubra 147 (4890 to 4892), 151, 172 (4700), 202 (4768), 210,
Fulica americana 148 (4594 to 4596), 149, 150, 197, 199 (4753), 210, 222 (4752),
Rallus virginianus ? 150, 197 (4744 to 4747), 221 (4745 to 4747),
Pozana carolina ? 150, 197, 198 (4748, 4749), 213, 221 (4749),
 151,
Amegilla californica 151, 202 (4769),
Amegilla californica 152, 179, 190 (4721), 192 (4722), 210,

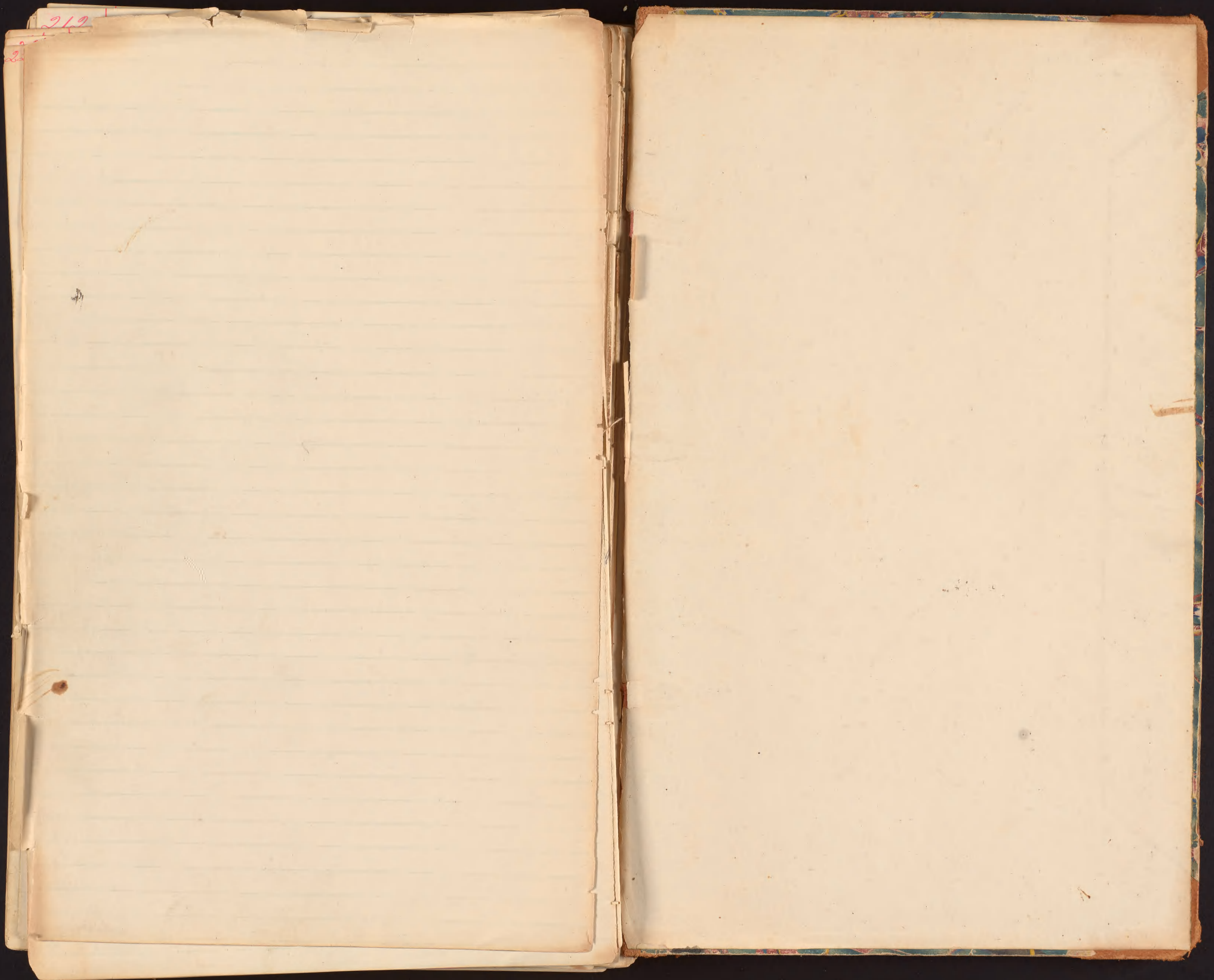
- ✓ *urus* sp. — ? 152,
 ✓ *Agelaius tricolor*, 153, (4780), 204, 208(4719), 209(4722-4724), 210, 212,
 ✓ *Centropus leucocapillus*, 153, 173, 188, 193, 194(4735), 195(4740, 4741, 4742), 203,
 ✓ *Oix sponsea*, 153,
 ✓ *Phalaropus* sp. — ? 153
 ✓ *Quercus* sp. — ? 153,
~~✓ *Quercus* sp. — ? 153,~~
 ✓ *Carpodacus purpureus californicus*, 155(4599, 4600) 156(4614, 4615, 4616), 158(4632), 163(4659),
 ✓ *Passeris nigriceps*, 157(4632), 165, 180(4718), 212,
 ✓ *Amphispiza flaviceps*, 158, 159(4649, 4650), 169(4688), 173, 190, 211,
 ✓ *Tachycineta* sp. — ? 163, 164,
 ✓ *Carpodacus purpureus calif.* (to 4662), 164(4663), 165(4670, 4671), 167, 169,
 ✓ *Carpodacus cassinii*, 166(4676, 4678, 4679, 4680), 167, 169, 174,
 ✓ *Helminthophaga luciae*, ²²⁸167, 169(4684), 170(4693), 173, 189, 193(4731), 205(4789), 211, 226(4775),
 ✓ *Panicedium gnoma*, 170(4698), 212,
 ✓ *Reithartes aura*, 170, 228,
 ✓ *Amphispiza bilineata*, 170, 173, 189,
 ✓ *Salpinctes obsoletus*, 173, 211,
 ✓ *Geus mexicanus*, 176,
 ✓ *Haliaeetus leucocephalus*, 177,
 ✓ *Urubitinga anthracina*, 186,
 ✓ *Picicorvus columbianus*, 187, 213,
 ✓ *Molothrus ater obscurus*, 188, 208(4720), 209(4725-4728), 210, 212, 224, 228,
 ✓ *Totanus solitarius*, 197, 199(4750),
 ✓ *Garettia candidissima*, 197, 199(4752), 214,
 ✓ *Scops asio trichopsis*, 205(4785), 213.

Several wild horses have been captured in Roop County, Cal., where they have been running for years. Among them was a magnificent stallion that for eight years defied the efforts of the most skillful vaqueros. The horses are the descendants of some fine stock belonging to a former owner of the range.

Democrat & Watchman

Circleville, - - February 19, 1886

The little linnets are proving such a nuisance this season at Santa Maria, Cal., that the citizens of the place are poisoning them. One fruit man put out poison apples, and next day picked up 250 dead birds.



219

